k POWER

COMPUTER
SPACE ADVENTURES

PAUL SOMERSON AND STEPHEN MANES

For the Commodore 64, VIC 20; Apple II, II Plus, IIe; IBM PC, PCjr;
Atari 400, 800, XL Series; Radio Shack Color Computer; and TI 99/4A.

k POWER

COMPUTER

SPACE ADVENTURES

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A   HARD/SOFT   PRESS   BOOK

To Jean, paragon of patience

_ Greetings, Earthling! _

Would you like to visit incredible, distant galaxies?

Do you know how to survive on a grim, desolate moon?

Did you ever meet aliens from far-off planets?

Can you escape from the asteroid of doom?

With this book and your home computer you'll be able to do all these things — and a whole lot more!

Just be sure to read our SECRETS OF THE STARS before you begin!

SECRETS OF THE STARS:
The mission support team answers your questions

You may-be tempted to skip this section and go right on to the programs. You know what we say to that? **DON'T!!!**
   Running BASIC programs is fun. So is typing them in. But there are times when programming can make *you* drift off into space. In this section, we'll give you lots of tips to help keep you on course.

Will these programs run on my computer?

   If you have an IBM Personal Computer or IBM PCjr, the answer is YES! All you have to do is type in the Program Listing. You shouldn't need to make any changes at all.

   If you have any of the following computers, the answer is still YES!

> Apple II
> Apple II Plus
> Apple IIe
> Atari 400, 800 or XL Series
> Coleco ADAM
> Commodore 64 or VIC-20
> Radio Shack TRS-80 Color Computer
> Texas Instruments 99/4A

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With these computers, you'll usually have to change the Program Listing slightly. Most of the time only a line or two will be different.

Just be sure to read the "If You Have . . ." section that appears after every Program Listing. It always tells you *exactly* what changes you'll need to make for your computer. (The ADAM needs special changes. Keep reading to learn how to make them.)

It's a good idea to read the "If You Have . . ." information *before* you start typing in your program. If this is your own copy of *Computer Space Adventures,* you may want to use a pen or pencil to mark the Program Listing with the changes you'll need.

There's more information about each of these computers at the end of this section. Be sure to read it before starting out!

If you have any other computer, the answer is still YES! But you may have to experiment until you find the exact changes your machine needs to run each program. That should be simple. We've tried hard to use only the parts of BASIC that are available on most machines.

Will my program run as soon as I type it in?

If a program runs as soon as you type it in, you're an absolutely amazing typist — and a very lucky one! Everybody makes little typing mistakes — even us experts! But in a computer program, little mistakes can cause BIG trouble.

If a program doesn't seem to run right, or if you get an error message — something like "Syntax Error" or "SN?" or "You Dummy!" — you'll have to go hunting for your mistakes. Programmers call them bugs. Remember, you put them there, and your program won't run right until you squish out every last one! The official word for that is "debugging."

How do I get the bugs out of my program?

When you type in a program, you must type each line exactly as it appears in the listing. If you miss even one space or one comma, your program probably won't run the way it should.

First, check your program line by line against the listing in the book. It's a good idea to LIST only a few lines at a time, using commands like LIST 100–150. That way, the whole LIST won't scroll up your screen before you get a chance to read it.

You'll probably slap your head when you discover the idiotic goofs you made. With some computers, you'll have to type the whole line in again to make a correction. With others, you can just type in the changes. Learn which way your computer works: It'll save you lots of typing.

Second, be sure you've made the changes your particular machine needs. *Always* look at the "If You Have . . ." section for your particular computer.

If your program still doesn't run, don't give up! There are plenty of things you may have done wrong. How do we know? Because we do them all the time ourselves! Here are some things to watch out for:

Rotten Leftovers

When you start typing in a program, be sure to type NEW and hit the ENTER (or RETURN) key. If you don't, you may find leftover lines from an old program popping up in your new one. It can be a real mess to get them out!

The Curse of the Missing Line Number

It's easy to skip a line by accident when you're typing a long program. Remember: Every program in this book includes a REM statement on line 10 with the name of the program. The next line in every program is line 100, and the lines count up by tens from there, like this:

```
10 REM USELESS PROGRAM
100 INPUT X
110 INPUT Y
120 PRINT Z
```

The only line numbers that won't end in 0 will be lines you add from the "If You Have . . . " section. And the only time the lines will skip — say from 240 to 260 — is when the "If You Have . . . " section tells you to remove a line for your machine.

One Out of Two

Some things have to come in pairs, or your computer will get terribly upset. What kinds of things? Mainly quotation marks ("") and left and right parentheses (()). Leaving one out is just about guaranteed to get you some sort of error message. That's why it's important to check a statement like

```
300 PRINT CHR$(INT(RND(1)*(3+2)/(4+3)))
```

very carefully. If you're not positive, count the parentheses and quotation marks on your *other* personal computer — your fingers!

A Letter's Not a Number

Your computer is very, very fussy about letters and numbers. Remember, a one (1) is not a small L (l) or a capital i (I), even though they may look

almost the same. And as far as the computer is concerned, a capital letter o (O) is not the same as the number zero (∅).

In our Program Listings, you'll always find a slash through the number zero (∅) to keep you from getting confused. But your fingers may do something your brain never had in mind!

Here are some program lines that will cause your computer to scratch its head and give up. We stole them from our own wastebaskets. Each line contains just one error. Can you spot the goofs?

```
100 GOT∅ 240
200 1F I=2 THEN 500
300 N=J
400 R=22I
500 P=4I6
```

A Space Isn't Nothing!

Especially in graphics programs — programs that draw pictures — spaces are terribly important. If the Program Listing shows a space, be sure you don't leave it out. For example, in

```
100 F$="MURBLEHEAD"
110 PRINT F$;" IS A JERK!"
```

if you leave out the space between the first quotation mark and the word IS in line 110, you'll get this:

```
MURBLEHEADIS A JERK!
```

You can probably guess what prints out if you leave the space in.

But don't add spaces where there are none in the listing. That may cause problems that are even worse!

Semicolons and Commas

Semicolons and commas have special jobs in BASIC programs. Semicolons let you PRINT more than one thing on each line. In PRINT statements, commas do the same thing a little differently, but the programs in this book hardly ever use them that way.

In DATA statements, commas separate each item of data. If you leave one out or put an extra one in, it will confuse your computer. If you get a message like "Out of Data" when everything in your program looks right, chances are you left out a comma — or perhaps a whole DATA statement.

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Mysterious Letters

Sometimes the letters and names used for variables in a program can get confusing. It's easy to type an E when you meant to type a D. They're right next to each other on the keyboard. So watch out! One mistake like that can keep an almost perfect program from running at all.

A Real Live Bug?

If you've done everything you can think of, and you're positive we've missed a bug in our own program, please write and describe the problem. We'll try to come up with a solution!

Why did you include the Sample Runs?

The Sample Runs are here for two reasons. First, they give you an idea of what the programs will do. That way, you can decide whether or not you want to type in a particular program.

The Sample Runs are also here to help you make sure your program is running the way it should. But remember: There are some things you can do on a computer that you can't do on a printed page. Many of these programs create pictures that move across your screen. There's no way we can show that here.

And some of the programs do different things every time you run them. So when you run your program, it may not do *exactly* what the Sample Run does — but it should come close.

How come the program listings are in ALL CAPITALS?

If you've already peeked at the Program Listings, you'll notice they're entirely in capital letters. That's because some computers only have capitals. If your machine is one of them, you won't have any problems with any of these programs.

But if you've got a computer that can give you both capitals *and* lowercase letters, you may run into some problems when you RUN these programs. Why? Let's say we ask a question that has a yes or no answer. You type in "yes" — all lowercase. But the program will be looking for "YES" — all capitals.

The solution? It's easy. Just press the key called CAPS LOCK or ALPHA LOCK or just plain LOCK on your computer. Do it when you type in your programs and when you run them. That way, all the letters will appear in CAPITALS!

What's an ENTER key? My computer doesn't have one!

One of the strangest and most important keys on the keyboard is the one you use to INPUT data. The strange part is that computer companies

can't agree on what to call it. Some call it the ENTER key. Some call it the RETURN key. And some put a weird symbol on it and no lettering at all!

It's always in roughly the same place — to the right of the letters on the keyboard. Our Program Listings always call it the ENTER key. If you've got a RETURN key, you'll need to type that word into your PRINT statements wherever we've used the word ENTER.

That brings up another rule we've used in this book. Whenever a program asks you to answer a question or make a choice, you have to hit the ENTER (or RETURN) key before anything will happen. That means you can use the BACKSPACE key to correct any mistakes before you ENTER your answer into the computer.

If you're a good programmer, you'll also notice that we've tried hard to keep you from entering an answer the computer isn't expecting. If we ask for a number between 1 and 4, you won't be able to enter 5 — or 0!

My machine doesn't have a BREAK key. Or does it?

The BREAK key is something else that's different on every machine. Sometimes it's just a key marked BREAK. Sometimes it's really two keys — CTRL and BREAK or some other combination that you have to hold down at the same time. We'll tell you exactly which combination works for your computer in a second. Be sure you know how to use it!

Why? Well, some of our programs will run forever unless you BREAK out of them — or turn off your machine! Sometimes a typing error will make the same thing happen when it's not supposed to. And when you're debugging a program, you may only want to run a small part of it and then quit. It's the same with computers as it is with cars — knowing how to get your machine to stop when you want it to is a really lucky BREAK.

How can I keep my programs from disappearing when I turn off the computer?

Many of the programs in this book will take you only a few minutes to type in. The long ones may take a few hours. And once you turn your computer off, all your hard work will disappear.

But if you have a cassette recorder or disk drive, you can SAVE your programs and RUN them again and again. SAVEs are different on almost every machine. The instruction manual that came with your computer or disk drive should tell you how to SAVE your work — and LOAD it back into your computer again.

You don't have to wait until a program is working to SAVE it. Especially with longer programs, you should SAVE now and then as you type the program in. That way, you'll be able to LOAD everything you've done right back into your machine if your dog or cat or little sister accidentally pulls the plug — or if you've had enough of programming for one day and decide to go to the movies.

If you've got a friend with the same kind of computer as yours, you can each type in different programs and SAVE them on disk or cassette. Then you can swap your disks or cassettes. It's another great way to save yourself some typing!

I've got a printer. What about me?

You're really in luck! With a little thought, you'll be able to print out your very own personalized program runs. Do computer-makers agree on the way to get information to your printer? Not any more than they agree on the name of the ENTER (RETURN?) key!

With some machines, it's easy to print out your program runs. All you do is type something like PR#1, and everything you see on the screen will magically turn up on your printer, too!

With other machines it's a little trickier. You may have to change PRINT statements to LPRINT to get your printer to notice them. The best advice we can give is to check the manuals for your computer.

But remember this: If you try to run a program and absolutely *nothing* happens, it's a good bet that you tried to send something to your printer — and your printer wasn't turned on! On most machines, that's an excellent way to stop a program cold!

I can think of a better way to do some of the things you did. Why did you do them your way?

There are usually lots of different ways to get your computer to do the same thing. If you run this program:

```
10 PRINT "JESKLER LOVES PRUNES"
20 PRINT "JESKLER LOVES PRUNES"
```

you'll get exactly the same result as:

```
10 FOR A=1 TO 2
20 PRINT "JESKLER LOVES PRUNES"
30 NEXT A
```

We can think of at least ten other ways to get the same two lines printed out on the screen.

Which way is best? It all depends. If we've done something that looks silly to you, it may be because we've tried to get it to work with machines that can't do some things yours can.

We've tried to write our programs so they'll run on as many machines as possible. If we've left out your favorite BASIC command or done something in

a roundabout way, we apologize. But if we've done something *really* stupid, let us know about it!

Will I mess up my computer if I make changes in your programs?

No! In fact, we *hope* you'll try to improve on these programs — and use them as a starting point for your own. But it's probably a good idea to get them running in their original versions first.

How do I run a program once I've typed it in?

Just type RUN and hit the ENTER or RETURN key!

What else do I have to read in this chapter?

Just the section on your own computer. After that — happy program-ming!

What if I have an IBM Personal Computer or PCjr?

You're in luck! These programs will run on your machine without any changes at all!

You should be sure to start off in BASIC by typing the command KEY OFF (and hitting the ENTER key). If you have a color monitor or TV set, you should next type WIDTH 40 (and the ENTER key again). You can choose the colors that you see on the screen by giving COLOR commands before you begin — or by writing them into the beginning of the program. The manual that comes with your computer will give you the details.

Remember to set the CAPS LOCK key so that you only get CAPITAL letters. To BREAK out of a program on a PC, hold down the CTRL key and press the BREAK key (it's also called SCROLL LOCK). To BREAK out on a PCjr, press the Fn key and then the letter B (for break). The PC's ENTER key has no lettering on it — just a funny arrow with a bent tail.

What if I have an Apple II Computer?

Many of these programs will run on your machine without any changes at all. In some programs, you'll have to remove one RANDOMIZE statement and change the way the program clears the screen. The "If You Have . . ." section after each Program Listing will tell you exactly what to do.

Be sure you run these programs in Applesoft BASIC — Apple's Integer BASIC just won't work. When you need to BREAK out of a program, hold down the CONTROL key and press the letter C. Your machine has a RETURN key instead of an ENTER key. If you have an Apple IIe, you should set the CAPS LOCK key so that you only get CAPITAL letters.

What if I have an Atari Computer?

Atari BASIC is very unusual. It doesn't allow string arrays like N$(3). It makes you DIMension all your string variables before you can use them. It requires a special way of entering string commands. It lacks features such as the TAB function.

Most of these programs will need simple changes and additions. The "If You Have . . ." section after each Program Listing will tell you exactly what to do.

Your machine has a BREAK key to let you break out of a program. It has a RETURN key instead of an ENTER key. And you can change the colors that appear on your screen—check your manual for the details.

What if I have a Coleco ADAM?

Many of these programs will run on your machine without any changes at all. In some programs, you'll have to remove one RANDOMIZE statement and change the way the program clears the screen. Because the version of BASIC in ADAM is almost exactly like the one for the Apple, you'll usually be able to follow the directions for Apple computers in the "If You Have . . ." section after each Program Listing.

But since the ADAM does not display as many characters across the screen as Apples do, you will have to make changes to some programs—especially the ones that make pictures. The following steps will help you get the programs running on your ADAM:

1. Enter the program, making the changes needed for the Apple Computer.
2. Now look at the changes for the TRS-80 Color Computer. *Don't* change any of the lines you already changed for the Apple. *Don't* change any lines that include the words CLS, LINE INPUT, RND or SOUND. Make all other changes needed for the Color Computer.

When you need to BREAK out of a program, hold down the CONTROL key and press the letter C. Your machine has a RETURN key instead of an ENTER key. And you should set the LOCK key so that you only get CAPITAL letters.

What if I have a Commodore 64 or VIC-20?

Many of these programs will run on your machine without any changes at all. In some programs, you'll have to remove a RANDOMIZE statement. In some, you'll also need to change one number in RND statements and change the way the program clears the screen. The "If You Have . . ." section after each Program Listing will tell you exactly what to do.

Your machine has a RETURN key instead of an ENTER key. To BREAK out of a program, press the RUN/STOP key. You may want to change the col-

ors that appear on your screen. Your computer's manual will tell you exactly how to do it.

Since the VIC prints fewer characters (letters and numbers) on the screen than most other home computers, you may want to adjust the PRINT statements so that words don't "wrap" around the ends of lines. The easiest way is to divide one PRINT statement into two. If you do this, be sure the first PRINT statement keeps its original line number.

What if I have a Texas Instruments 99/4A Computer?

TI BASIC is unusual in many ways. It uses special characters instead of AND and OR. It uses the term SEG$ instead of the more common MID$. It's very fussy about what you can put after the word THEN.

Most of these programs will need simple changes and additions. The "If You Have . . . " section after each Program Listing will tell you exactly what to do.

Your machine has an ENTER key. To BREAK out of a program, hold down the FCTN key and press the number 4 key. You should set the ALPHA LOCK key so that you only get CAPITAL letters. You may want to change the colors that appear on your screen. Your computer's manual will tell you how to do it.

What if I have a TRS-80 Color Computer?

Many of these programs will run on your machine without any changes at all. In some, you'll have to take out one RANDOMIZE statement and change the way RND works. The "If You Have . . . " section after each Program Listing will tell you exactly what to do.

Your machine has an ENTER key and a BREAK key. You may want to change the colors that appear on your screen. Your computer's manual will tell you how to do it.

NOW, ON TO THE FUN!

Saturn Mission Control

It's not every day that a space probe you designed passes Saturn. But now it's approaching the ringed planet. If you scan the messages carefully, you may be able to see the rings!

☐ Sample Run

```
YOUR SCREEN IS NOW PICKING
UP TRANSMISSIONS FROM A
SATELLITE PASSING THE PLANET
SATURN.  IF YOU STUDY THE
PICTURE CAREFULLY, YOU MAY
BE ABLE TO SEE THE FAMOUS
PLANETARY RINGS AMID ALL
THE SPACE STATIC.

HIT THE ENTER KEY TO FIND OUT?

RECEIVING TRANSMITTED DATA NOW...

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```

Break

12

☐ Program Listing

```
10 REM SATURN MISSION CONTROL
100 PRINT
110 PRINT "YOUR SCREEN IS NOW PICKING"
120 PRINT "UP TRANSMISSIONS FROM A"
130 PRINT "SATELLITE PASSING THE PLANET"
140 PRINT "SATURN.  IF YOU STUDY THE"
150 PRINT "PICTURE CAREFULLY, YOU MAY"
160 PRINT "BE ABLE TO SEE THE FAMOUS"
170 PRINT "PLANETARY RINGS AMID ALL"
180 PRINT "THE SPACE STATIC."
190 PRINT
200 PRINT "HIT THE ENTER KEY TO FIND OUT";
210 INPUT X$
220 PRINT
230 PRINT "RECEIVING TRANSMITTED DATA NOW..."
240 FOR B=1 TO 25
250 PRINT
260 FOR LAG=1 TO 200
270 NEXT LAG
280 NEXT B
290 FOR Y=1 TO 40
300 FOR Z=1 TO 40
310 FOR A=1 TO Y
320 PRINT "-";
330 NEXT A
340 PRINT "*";
350 FOR A=1 TO Z
360 PRINT "-";
370 NEXT A
380 PRINT "*";
390 NEXT Z
400 NEXT Y
410 PRINT "END OF SATELLITE TRANSMISSION"
```

☐ If You Have . . .

APPLE II

Change: 200 PRINT "HIT THE RETURN KEY TO FIND OUT";

ATARI

Add: 95 DIM X$(1)

Change: 200 PRINT "HIT THE RETURN KEY TO FIND OUT";
         290 FOR Y=1 TO 36
         300 FOR Z=1 TO 36

(continued)

COMMODORE 64

Change:
```
200 PRINT "HIT THE RETURN KEY TO FIND OUT";
```

COMMODORE VIC-20

Change:
```
200 PRINT "HIT THE RETURN KEY TO FIND OUT"
290 FOR Y=1 TO 22
300 FOR Z=1 TO 22
```

TEXAS INSTRUMENTS 99/4A

Change:
```
200 PRINT "HIT THE ENTER KEY TO FIND    OUT";
230 PRINT "RECIVING TRANSMITTED DATA    NOW..."
290 FOR Y=1 TO 28
300 FOR Z=1 TO 28
```

TRS-80 COLOR COMPUTER

Change:
```
290 FOR Y=1 TO 31
300 FOR Z=1 TO 31
```

You Sure Look Funny!

It's amazing how many different shapes computers can take! But it's even
more amazing to discover how different the people on other planets can be!
Ready for an introduction to a friendly alien?

☐ Sample Run

```
EXCUSE ME--WHAT'S YOUR NAME? MARY TUDOR

IT'S FUNNY, MARY TUDOR.  ON MY PLANET,
NOCILIS, YOU LOOK JUST LIKE THE
COMPUTERS WE ALL USE.  DO YOU WANT
TO SEE WHAT THE PEOPLE WHO LIVE ON
NOCILIS LOOK LIKE? YES


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        I                                       I
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  I                ( - - O - - )   ( - - O - - )        I
  I    / / / / /   = = = = = = =   = = = = = = =        I
  I                                                     I
  = = = = = = = = = = = = = = = = = = = = = = = = = = = =

    HERE'S WHAT I LOOK LIKE--
    A HANDSOME DEVIL, NO?
```

☐ Program Listing

```
10 REM YOU SURE LOOK FUNNY!
100 PRINT "EXCUSE ME--WHAT'S YOUR NAME";
110 INPUT N$
120 IF N$="" THEN 100
130 PRINT
140 PRINT "IT'S FUNNY,";N$;".  ON MY PLANET,"
150 PRINT "NOCILIS, YOU LOOK JUST LIKE THE"
160 PRINT "COMPUTERS WE ALL USE.  DO YOU WANT"
170 PRINT "TO SEE WHAT THE PEOPLE WHO LIVE ON"
180 PRINT "NOCILIS LOOK LIKE";
190 INPUT Y$
200 IF MID$(Y$,1,1)<>"N" THEN 240
210 PRINT
220 PRINT "NO?? WELL, TOO BAD."
230 END
240 PRINT CHR$(12)
250 S$=CHR$(32)
260 PRINT TAB(5);
270 FOR A=1 TO 20
280 PRINT "=";
290 NEXT A
300 PRINT TAB(5);"I";
310 FOR B=1 TO 18
320 PRINT S$;
330 NEXT B
340 PRINT "I"
350 FOR C=1 TO 10
360 PRINT TAB(5);"I";S$;
370 FOR D=1 TO 16
380 PRINT "#";
390 NEXT D
400 PRINT S$;"I"
410 NEXT C
420 PRINT TAB(5);"I";S$;
430 FOR E=1 TO 17
440 PRINT S$;
450 NEXT E
460 PRINT "I"
470 FOR F=1 TO 28
480 PRINT "=";
490 NEXT F
500 PRINT
510 PRINT "I";
520 FOR G=1 TO 26
530 PRINT S$;
540 NEXT G
550 PRINT "I"
560 PRINT "I";
570 FOR H=1 TO 9
580 PRINT S$;
590 NEXT H
```

```
600 PRINT S$;"=======";S$;"=======";S$;"I"
610 PRINT "I";
620 FOR H=1 TO 9
630 PRINT S$;
640 NEXT H
650 PRINT S$;"(--O--)";S$;"(--O--)";S$;"I"
660 PRINT "I";S$;S$;"/////";S$;S$;S$;
670 PRINT "=======";S$;"=======";S$;"I"
680 PRINT "I";
690 FOR K=1 TO 26
700 PRINT S$;
710 NEXT K
720 PRINT "I"
730 FOR L=1 TO 28
740 PRINT "=";
750 NEXT L
760 PRINT
770 PRINT TAB(3);"HERE'S WHAT I LOOK LIKE--"
780 PRINT TAB(3);"A HANDSOME DEVIL, NO?"
```

☐ If You Have . . .

APPLE II

Add: `295 PRINT`

Change: `240 HOME`

ATARI

Add:
```
95 DIM N$(40),Y$(3),S$(1)
295 PRINT
785 END
795 FOR AA=1 TO IDX
805 PRINT " ";:NEXT AA:RETURN
```

Change:
```
200 IF Y$(1,1)<>"N" THEN 240
240 PRINT CHR$(125)
260 IDX=4:GOSUB 795
300 IDX=4:GOSUB 795:PRINT "I";
360 IDX=4:GOSUB 795:PRINT "I";S$;
420 IDX=4:GOSUB 795:PRINT "I";S$;
770 IDX=2:GOSUB 795:PRINT "HERE'S WHAT I LOOK LIKE--"
780 IDX=2:GOSUB 795:PRINT "A HANDSOME DEVIL, NO?"
```

COMMODORE 64

Add: `295 PRINT`

Change: `240 PRINT CHR$(147)`

COMMODORE VIC-20

Add: 295 PRINT

Change: 100 PRINT "EXCUSE ME--WHAT'S YOUR NAME"

```
        180  PRINT "NOCILIS LOOK LIKE"
        240  PRINT CHR$(147)
        270  FOR A=1 TO 12
        310  FOR B=1 TO 10
        350  FOR C=1 TO 5
        370  FOR D=1 TO 8
        430  FOR E=1 TO 9
        470  FOR F=1 TO 21
        520  FOR G=1 TO 19
        570  FOR H=1 TO 6
        600  PRINT S$;"=====";S$;"=====";S$;"I"
        620  FOR H=1 TO 6
        650  PRINT S$;"(-O-)";S$;"(-O-)";S$;"I"
        660  PRINT "I";S$;"////";S$;S$;
        670  PRINT "=====";S$;"=====";S$;"I"
        690  FOR K=1 TO 19
        730  FOR L=1 TO 21
```

TEXAS INSTRUMENTS 99/4A

Change: 160 PRINT "COMPUTERS WE ALL USE. DO   YOU WANT"

```
        170  PRINT "TO SEE WHAT THE PEOPLE WHO   LIVE ON"
        200  IF SEG$(Y$,1,1)<>"N" THEN 240
        240  CALL CLEAR
        350  FOR C=1 TO 8
```

TRS-80 COLOR COMPUTER

Delete: 420,430,440,450,460,510,520,530,540,550,680,690,
700,710,720

Add: 295 PRINT

Change: 240 CLS

```
        350  FOR C=1 TO 5
```

Alien Eyes

Exploring a distant galaxy, you encounter friendly aliens. Use your computer to talk with them in your language — and theirs!

☐ Sample Run

```
IN A GALAXY CALLED OCULA, ALIENS CAN
HAVE ANYWHERE FROM 3 TO 10 EYES...

HERE COME SOME ALIENS NOW!
HOW MANY EYES DOES EACH ONE HAVE? 9

ON THIS PLANET, CALLED RFFONWM, THE
CREATURES CALL THEMSELVES RISDOXFS.

GIVE THE RISDOXFS A WELCOMING MESSAGE:
MESSAGE? HI THERE RISDOXFS


=========================================

HHHHHHHHHHIIIIIIIII TTTTTTTTTHHHHHHHHHEE
EEEEEEERRRRRRRRRREEEEEEEE RRRRRRRRRIIII
IIIIISSSSSSSSSSDDDDDDDDDOOOOOOOOOXXXXXXX
XXFFFFFFFFFFSSSSSSSSS


=========================================


HIT "ENTER" TO CONVERSE FURTHER
OR ENTER "Q" TO QUIT AND RETURN HOME
OR ENTER "P" TO GO TO ANOTHER PLANET?

MESSAGE? NICE GLASSES YOU HAVE THERE!!


=========================================


NNNNNNNNNNIIIIIIIIIICCCCCCCCCCEEEEEEEEE GG
GGGGGGGGLLLLLLLLLAAAAAAAAAASSSSSSSSSSSSSS
SSSSEEEEEEEEESSSSSSSSS YYYYYYYYYOOOOOOO
OOUUUUUUUUU HHHHHHHHHAAAAAAAAAVVVVVVVVV
EEEEEEEEE TTTTTTTTTTHHHHHHHHHHEEEEEEEEERR
RRRRRRREEEEEEEEEE!!!!!!!!!!!!!!!!!!!!


=========================================


HIT "ENTER" TO CONVERSE FURTHER
OR ENTER "Q" TO QUIT AND RETURN HOME
OR ENTER "P" TO GO TO ANOTHER PLANET? Q
```

☐ Program Listing

```
10  REM ALIEN EYES
100 Q$=CHR$(34)
110 NAM$=""
120 PLANET$=""
130 FOR A=1 TO 5
140 PRINT
150 NEXT A
160 PRINT "IN A GALAXY CALLED OCULA, ALIENS CAN"
170 PRINT "HAVE ANYWHERE FROM 3 TO 10 EYES..."
180 PRINT
190 PRINT "HERE COME SOME ALIENS NOW!"
200 PRINT "HOW MANY EYES DOES EACH ONE HAVE";
210 INPUT EYES
220 IF EYES<3 THEN 180
230 IF EYES>10 THEN 180
240 PRINT
250 RANDOMIZE(EYES)
260 FOR B=1 TO 7
270 PLANET$=PLANET$+CHR$(INT(RND(1)*26)+65)
280 NAM$=NAM$+CHR$(INT(RND(1)*26)+65)
290 NEXT B
300 PRINT "ON THIS PLANET, CALLED ";PLANET$;", THE"
310 PRINT "CREATURES CALL THEMSELVES ";NAM$;"S."
320 PRINT
330 PRINT "GIVE THE ";NAM$;"S A WELCOMING MESSAGE:"
340 PRINT "MESSAGE";
350 INPUT MESSAGE$
360 IF MESSAGE$="" THEN 340
370 PRINT
380 PRINT
390 GOSUB 660
400 PRINT
410 K=0
420 FOR D=1 TO LEN(MESSAGE$)
430 M$=MID$(MESSAGE$,D,1)
440 IF M$=" " THEN 500
450 FOR E=1 TO EYES
460 PRINT M$;
470 GOSUB 720
480 NEXT E
490 GOTO 520
500 PRINT " ";
510 GOSUB 720
520 NEXT D
530 PRINT
540 PRINT
550 GOSUB 660
560 PRINT
570 PRINT "HIT ";Q$;'ENTER";Q$;" TO CONVERSE FURTHER"
580 PRINT "OR ENTER ";Q$;"Q";Q$;" TO QUIT AND RETURN HOME"
590 PRINT "OR ENTER ";Q$;"P";Q$;" TO GO TO ANOTHER PLANET";
600 INPUT D$
```

```
610 IF MID$(D$,1,1)="P" THEN 110
620 IF MID$(D$,1,1)="Q" THEN END
630 PRINT
640 GOTO 340
650 REM --- LINE DRAWING SUBROUTINE ---
660 FOR C=1 TO 38
670 PRINT "=";
680 NEXT C
690 PRINT "="
700 RETURN
710 REM --- LINE BREAK SUBROUTINE ---
720 K=K+1
730 IF K<39 THEN 760
740 K=0
750 PRINT
760 RETURN
```

☐ If You Have . . .

APPLE II

Delete: 250

Change: 570 PRINT "HIT ";Q$;"RETURN";Q$;" TO CONVERSE
         FURTHER"

ATARI

Delete: 250

Add: 95 DIM Q$(1),NAM$(7),PLANET$(7),D$(1),
         MESSAGE$(25),M$(1)
      605 IF D$="" THEN 640

Change: 270 PLANET$(B)=CHR$(INT(RND(0)*26)+65)
         280 NAM$(B)=CHR$(INT(RND(0)*26)+65)
         430 M$=MESSAGE$(D,D)
         570 PRINT "HIT ";Q$;"RETURN";Q$;" TO CONVERSE
             FURTHER"
         610 IF D$(1,1)="P" THEN 110
         620 IF D$(1,1)="Q" THEN END
         660 FOR C=1 TO 36
         730 IF K<37 THEN 760

COMMODORE 64

```
Change:   250  REM
          270  PLANET$=PLANET$+CHR$(INT(RND(0)*26)+65)
          280  NAM$=NAM$+CHR$(INT(RND(0)*26)+65)
          570  PRINT "HIT ";Q$;"RETURN";Q$;" TO CONVERSE
               FURTHER"
```

COMMODORE VIC-20

```
Change:   200  PRINT "HOW MANY EYES DOES EACH ONE HAVE"
          250  REM
          270  PLANET$=PLANET$+CHR$(INT(RND(0)*26)+65)
          280  NAM$=NAM$+CHR$(INT(RND(0)*26)+65)
          340  PRINT "MESSAGE"
          570  PRINT "HIT ";Q$;"RETURN";Q$;" TO CONVERSE
               FURTHER"
          590  PRINT "OR ENTER ";Q$;"P";Q$;" TO GO TO
               ANOTHER PLANET"
          660  FOR C=1 TO 21
```

TEXAS INSTRUMENTS 99/4A

```
Add:      785  END
```

```
Change:   160  PRINT "IN A GALAXY CALLED OCULA,    ALIENS CAN"
          170  PRINT "HAVE ANYWHERE FROM 3 TO 10   EYES..."
          250  RANDOMIZE
          270  PLANET$=PLANET$&CHR$(INT(RND*26)+65)
          280  NAM$=NAM$&CHR$(INT(RND*26)+65)
          430  M$=SEG$(MESSAGE$,D,1)
          610  IF SEG$(D$,1,1)="P" THEN 110
          620  IF SEG$(D$,1,1)="Q" THEN 785
          660  FOR C=1 TO 27
```

TRS-80 COLOR COMPUTER

```
Delete:   250
```

```
Change:   270  PLANET$=PLANET$+CHR$(RND(26)+64)
          280  NAM$=NAM$+CHR$(RND(26)+64)
          660  FOR C=1 TO 30
          730  IF K<31 THEN 760
```

22

Historic Moon Walk

You knew you'd be chosen for a mission someday. Now someday is here.
Run this program to see your world-famous walk on the moon!

☐ Sample Run

```
YOU ARE THE YOUNGEST ASTRONAUT
EVER TO REACH THE MOON.  THE
COMPUTER WILL HELP YOU LEAVE
YOUR FOOTPRINTS ON ITS SURFACE.
HIT THE ENTER KEY
TO MAKE YOUR LANDING?

              YOU ARE LANDING
            YOU ARE LANDING
           YOU ARE LANDING
          YOU ARE LANDING
         YOU ARE LANDING
        YOU ARE LANDING
       YOU ARE LANDING
      YOU ARE LANDING
     YOU ARE LANDING
    YOU ARE LANDING
   YOU ARE LANDING
  YOU ARE LANDING
 YOU ARE LANDING
YOU ARE LANDING
YOU ARE LANDING
```

YOU CAN HEAR THE CHEERS OVER THE RADIO
AS YOU TELL THE CREW BACK ON EARTH THAT
YOU'VE LANDED.   NOW IT'S TIME TO LEAVE
YOUR FOOTPRINTS ON THE SURFACE FOREVER.
HIT THE ENTER KEY FOR EACH STEP

```
?
          **
          **
          **
?
    **
    **
    **

?
          **
          **
          **
?
    **
    **
    **

?
          **
          **
          **
?
    **
    **
    **

?
          **
          **
          **
?
    **
    **
    **

?

Break
```

☐ Program Listing

```
10  REM HISTORIC MOONWALK
100 PRINT
110 PRINT "YOU ARE THE YOUNGEST ASTRONAUT"
120 PRINT "EVER TO REACH THE MOON.  THE"
130 PRINT "COMPUTER WILL HELP YOU LEAVE"
140 PRINT "YOUR FOOTPRINTS ON ITS SURFACE."
160 PRINT
170 PRINT "HIT THE ENTER KEY"
180 PRINT "TO MAKE YOUR LANDING";
190 INPUT X$
200 FOR A=25 TO 1 STEP -1
210 PRINT TAB(A);"YOU ARE LANDING"
220 NEXT A
230 FOR B=1 TO 25
240 PRINT ".";TAB(B+14);"."
250 NEXT B
260 PRINT "YOU CAN HEAR THE CHEERS OVER THE RADIO"
270 PRINT "AS YOU TELL THE CREW BACK ON EARTH THAT"
280 PRINT "YOU'VE LANDED.  NOW IT'S TIME TO LEAVE"
290 PRINT "YOUR FOOTPRINTS ON THE SURFACE FOREVER."
300 PRINT "HIT THE ENTER KEY FOR EACH STEP"
310 INPUT S$
320 FOR C=1 TO 25
330 PRINT
340 NEXT C
350 GOTO 370
360 INPUT LT$
370 FOR D=1 TO 3
380 PRINT TAB(5);"**"
390 NEXT D
400 PRINT
410 INPUT RT$
420 FOR E=1 TO 3
430 PRINT TAB(9);"**"
440 NEXT E
450 GOTO 360
```

☐ If You Have . . .

APPLE II

Change: 170 PRINT "HIT THE RETURN KEY"
             300 PRINT "HIT THE RETURN KEY FOR EACH STEP"

(continued)

ATARI

```
Add:    95 DIM X$(1),S$(1),LT$(2),RT$(2)
       465 FOR AA=1 TO IDX
       475 PRINT " ";:NEXT AA:RETURN

Change: 170 PRINT "HIT THE RETURN KEY"
        200 FOR A=21 TO 1 STEP -1
        210 IDX=A:GOSUB 465:PRINT "YOU ARE LANDING"
        230 FOR B=1 TO 21
        240 PRINT ".";:IDX=(B+10):GOSUB 465:PRINT "."
        300 PRINT "HIT THE RETURN KEY FOR EACH STEP"
        380 IDX=4:GOSUB 465:PRINT "**"
        430 IDX=8:GOSUB 465:PRINT "**"
```

COMMODORE 64

```
Change: 170 PRINT "HIT THE RETURN KEY"
        200 FOR A=23 TO 1 STEP -1
        230 FOR B=1 TO 23
        300 PRINT "HIT THE RETURN KEY FOR EACH STEP"
```

COMMODORE VIC-20

```
Change: 170 PRINT "HIT THE RETURN KEY"
        200 FOR A=5 TO 1 STEP -1
        230 FOR B=1 TO 5
        300 PRINT "HIT THE RETURN KEY FOR EACH STEP"
```

TEXAS INSTRUMENTS 99/4A

```
Change: 110 PRINT "YOU ARE THE YOUNGEST ASTRO- NAUT"
        140 PRINT "YOUR FOOTPRINTS ON ITS SUR- FACE"
        200 FOR A=14 TO 1 STEP -1
        230 FOR B=1 TO 14
        240 PRINT ".";TAB(B+12);"."
        280 PRINT "YOU'VE LANDED. NOW IT'S TIME TO LEAVE"
        290 PRINT "YOUR FOOTPRINTS ON THE SUR- FACE
            FOREVER."
        300 PRINT "HIT THE ENTER KEY FOR EACH  STEP"
```

TRS-80 COLOR COMPUTER

```
Change: 200 FOR A=16 TO 1 STEP -1
        230 FOR B=1 TO 16
```

Streaking Comet

Want to discover a comet no other human has ever seen before?
Type in this program and it just may happen!

☐ Sample Run

```
A NEW COMET HAS BEEN DISCOVERED!
HIT THE ENTER KEY TO SEE IT ARCH
ACROSS THE SKY!?


======**
======**



        ======**
        ======**


                ======**
                ======**


                        ======**
                        ======**


                                ======**
                                ======**
```

☐ Program Listing

```
10 REM STREAKING COMET
100 PRINT "A NEW COMET HAS BEEN DISCOVERED!"
110 PRINT "HIT THE ENTER KEY TO SEE IT ARCH"
120 PRINT "ACROSS THE SKY!";
130 INPUT X$
140 FOR A=1 TO 7
150 FOR B=8-A TO 1 STEP -1
160 PRINT
```

(continued)

27

```
170 NEXT B
180 T=A
190 GOSUB 340
200 GOSUB 340
210 PRINT CHR$(12)
220 NEXT A
230 FOR C=1 TO 21
240 FOR D=1 TO C
250 PRINT
260 NEXT D
270 T=10+C
280 GOSUB 340
290 GOSUB 340
300 PRINT CHR$(12)
310 NEXT C
320 END
330 REM --- IMAGE ---
340 PRINT TAB(T);
350 FOR P=1 TO 6
360 PRINT CHR$(61);
370 NEXT P
380 PRINT CHR$(42);CHR$(42)
390 RETURN
```

☐ If You Have . . .

APPLE II

Change:
```
110 PRINT "HIT THE RETURN KEY TO SEE IT ARCH"
210 HOME
300 HOME
```

ATARI

Add:
```
95 DIM X$(1)
395 FOR AA=1 TO IDX
397 PRINT " ";:NEXT AA:RETURN
```

Change:
```
110 PRINT "HIT THE RETURN KEY TO SEE IT ARCH"
210 PRINT CHR$(125)
300 PRINT CHR$(125)
340 IDX=T:GOSUB 395
```

COMMODORE 64

Change:
```
110 PRINT "HIT THE RETURN KEY TO SEE IT ARCH"
210 PRINT CHR$(147)
300 PRINT CHR$(147)
```

COMMODORE VIC-20

```
Change:  110  PRINT "HIT THE RETURN KEY TO SEE IT ARCH"
         210  PRINT CHR$(147)
         230  FOR C=1 TO 8
         270  T=6+C
         300  PRINT CHR$(147)
```

TEXAS INSTRUMENTS 99/4A

```
Change:  210  CALL CLEAR
         300  CALL CLEAR
```

TRS-80 COLOR COMPUTER

```
Change:  210  CLS
         230  FOR C=1 TO 16
         270  T=6+C
         300  CLS
```

Laser Defender

You live on a nice, peaceful planet, but your neighbors just won't leave you alone. Time to get out your laser beams and defend yourself!

☐ Sample Run

```
HORRIBLE WINGED ALIENS HAVE
BEEN SIGHTED ON THE HORIZON,
AND THEY'RE FLYING TOWARD US.
THE ONLY WAY TO STOP THEM IS
TO SHOOT THOUSANDS OF LASER
ARROWS DIRECTLY OVERHEAD!

HIT THE ENTER KEY TO FIRE?
```

```
                         A
                         !
                         !
                         !
                         H
      A
      !
      !
      !
      H
                         A
                         !
                         !
                         !
                         H
                                    A
                                    !
                                    !
                                    !
                                    H
                            A
                            !
                            !
                            !
                            H
                                    A
                                    !
                                    !
                                    !
                                    H
```

```
        )
         "
          "     &          (
  #   &   $   $  #
          *       (      &    %  #
"          )  #        (
              *#     %     %  #
          )   %  #   $  #
```

NICE SHOOTING, ACE!
UH-OH--HERE COME SOME MORE!

HIT THE ENTER KEY TO FIRE?

```
                              A
                              !
                              !
                              !
                              !
                              H
                              A
            A                 !
            !                 !
            !                 !
            !                 H
            H
&
        "
          "       (          (
"
   "#          )      %
"      &           *       '           (
   %        '   $                        5
 '    %    %        ( #                  1
```

WHERE'D YOU LEARN TO SHOOT LIKE THAT?
UH-OH--HERE COME SOME MORE!

HIT THE ENTER KEY TO FIRE?

Break

☐ Program Listing

```
10 REM LASER DEFENDER
100 PRINT
110 PRINT "HORRIBLE WINGED ALIENS HAVE"
120 PRINT "BEEN SIGHTED ON THE HORIZON,"
130 PRINT "AND THEY'RE FLYING TOWARD US."
140 PRINT "THE ONLY WAY TO STOP THEM IS"
150 PRINT "TO SHOOT THOUSANDS OF LASER"
160 PRINT "ARROWS DIRECTLY OVERHEAD!"
170 K=0
180 PRINT
190 PRINT "HIT THE ENTER KEY TO FIRE";
200 INPUT X$
210 FOR W=1 TO 25
220 PRINT
230 NEXT W
240 R=INT(RND(1)*38)+1
250 IF R=OLDR THEN 240
260 PRINT TAB(R);"A"
270 FOR A=1 TO 4
280 PRINT TAB(R);"!"
290 NEXT A
300 PRINT TAB(R);"H"
310 OLDR=R
320 K=K+1
330 IF K>38 THEN K=0
340 IF K<>R AND K<>R-1 THEN 670
350 PRINT CHR$(7)
360 PRINT CHR$(12)
370 FOR N=1 TO 20
380 P=INT(RND(1)*9)+1
390 Q=INT(RND(1)*7)+1
400 S=INT(RND(1)*9)+1
410 T=INT(RND(1)*8)+1
420 U=INT(RND(1)*7)+1
430 W=39-(P+Q+S+T+U)
440 FOR G=1 TO N
450 PRINT
460 NEXT G
470 PRINT TAB(P);CHR$(33+P);
480 PRINT TAB(Q+P);CHR$(33+Q);
490 PRINT TAB(Q+P+S);CHR$(33+S);
500 PRINT TAB(Q+P+S+T);CHR$(33+T);
510 PRINT TAB(Q+P+S+T+U);CHR$(33+U);
520 PRINT TAB(Q+P+S+T+U+W);CHR$(33+W)
530 PRINT CHR$(12)
540 NEXT N
550 ON (RND(1)*4)+1 GOTO 560,580,600,620,640
560 PRINT "NICE SHOOTING, ACE!"
570 GOTO 650
580 PRINT "YOU BLASTED THEM OUT OF THE SKY!"
590 GOTO 650
600 PRINT "WHERE'D YOU LEARN TO SHOOT LIKE THAT?"
```

```
610 GOTO 650
620 PRINT "SCRATCH ANOTHER NASTY ALIEN!"
630 GOTO 650
640 PRINT "BULLSEYE!  GOT THEM!"
650 PRINT "UH-OH--HERE COME SOME MORE!"
660 GOTO 170
670 GOTO 240
```

☐ If You Have . . .

APPLE II

Change:
```
190 PRINT "HIT THE RETURN KEY TO FIRE";
360 HOME
530 HOME
```

ATARI

Add:
```
95 DIM X$(1)
685 FOR AA=1 TO IDX
695 PRINT " ";:NEXT AA:RETURN
```

Change:
```
190 PRINT "HIT THE RETURN KEY TO FIRE";
240 R=INT(RND(0)*38)+1
260 IDX=R:GOSUB 685:PRINT "A"
280 GOSUB 685:PRINT "!"
300 GOSUB 685:PRINT "!"
350 PRINT CHR$(253)
360 PRINT CHR$(125)
380 P=INT(RND(0)*9)+1
390 Q=INT(RND(0)*7)+1
400 S=INT(RND(0)*9)+1
410 T=INT(RND(0)*8)+1
420 U=INT(RND(0)*7)+1
470 IDX=(P):GOSUB 685:PRINT CHR$(33+P);
480 IDX=(Q+P):GOSUB 685:PRINT CHR$(33+Q);
490 IDX=(Q+P+S):GOSUB 685:PRINT CHR$(33+S);
500 IDX=(Q+P+S+T):GOSUB 685:PRINT CHR$(33+T);
510 IDX=(Q+P+S+T+U):GOSUB 685:PRINT CHR$(33+U);
520 IDX=(Q+P+S+T+U+W):GOSUB 685:PRINT CHR$(33+W);
530 PRINT CHR$(125)
550 ON (RND(0)*4)+1 GOTO 560,580,600,620,640
```

COMMODORE 64

Delete: 350

Change:
```
190 PRINT "HIT THE RETURN KEY TO FIRE";
240 R=INT(RND(0)*38)+1
360 PRINT CHR$(147)
380 P=INT(RND(0)*9)+1
390 Q=INT(RND(0)*7)+1
```

(continued)

```
400  S=INT(RND(0)*9)+1
410  T=INT(RND(0)*8)+1
420  U=INT(RND(0)*7)+1
530  PRINT CHR$(147)
550  ON (RND(0)*4)+1 GOTO 560,580,600,620,640
```

COMMODORE VIC-20

Delete: 350

Change:
```
190  PRINT "HIT THE RETURN KEY TO FIRE"
240  R=INT(RND(0)*38)+1
330  IF K>21 THEN K=0
360  PRINT CHR$(147)
380  P=INT(RND(0)*9)+1
390  Q=INT(RND(0)*7)+1
400  S=INT(RND(0)*9)+1
410  T=INT(RND(0)*8)+1
420  U=INT(RND(0)*7)+1
430  W=20-(P+Q+S+T+U)
530  PRINT CHR$(147)
550  ON (RND(0)*4)+1 GOTO 560,580,600,620,640
```

TEXAS INSTRUMENTS 99/4A

Add: 332 K=0

Change:
```
240  R=INT(RND*38)+1
330  IF K<29 THEN 340
340  IF (K<>R)*(K<>R-1) THEN 670
350  CALL SOUND(100,440,2)
360  CALL CLEAR
380  P=INT(RND*7)+1
390  Q=INT(RND*5)+1
400  S=INT(RND*6)+1
410  T=INT(RND*5)+1
420  U=INT(RND*5)+1
530  CALL CLEAR
550  ON (RND*4)+1 GOTO 560,580,600,620,640
```

TRS-80 COLOR COMPUTER

Change:
```
240  R=RND(38)
350  SOUND 173,3
360  CLS
380  P=RND(9)
390  Q=RND(7)
400  S=RND(9)
410  T=RND(8)
420  U=RND(7)
530  CLS
550  ON RND(5) GOTO 560,580,600,620,640
```

34

Scary Black Holes

There's no telling what you'll see on an intergalactic flight. It's just possible that on this one you'll spot some of the famous black holes in space.

☐ Sample Run

```
LADIES AND GENTLEMEN, THIS IS YOUR
AUTOMATIC COMPUTER PILOT SPEAKING.
FLIGHT #8923 TO RIGEL AND CASSIOPEIA
IS NOW APPROACHING THE REGION OF
BLACK HOLES.  IF YOU LOOK OUT YOUR
SPACEPORTS, YOU JUST MAY SEE SOME.

HIT THE ENTER KEY TO OPEN THE PORT?

************************************
************************************
******************           ********
******************           ********
******************        .   ********
******************           ********
******************           ********
************************************
************************************
************************************
*********************          **
*********************          **
*********************          **
*********************          **
*********************          **
*********************          **
*************************************
*************************************
*************************************
*****              *********************
*****              *********************
*****              *********************
*****              *********************
*****              *********************
*************************************
*************************************
*************************************
*******************          *****
*******************          *****
*******************          *****
*******************          *****
*******************          *****
*******************          *****
*************************************
*************************************
*************************************
*************************************

Break
```

☐ Program Listing

```
10 REM SCARY BLACK HOLES
100 PRINT "LADIES AND GENTLEMEN, THIS IS YOUR"
110 PRINT "AUTOMATIC COMPUTER PILOT SPEAKING."
120 PRINT "FLIGHT #8923 TO RIGEL AND CASSIOPEIA"
130 PRINT "IS NOW APPROACHING THE REGION OF"
140 PRINT "BLACK HOLES.  IF YOU LOOK OUT YOUR"
150 PRINT "SPACEPORTS, YOU JUST MAY SEE SOME."
160 PRINT
170 PRINT "HIT THE ENTER KEY TO OPEN THE PORT";
180 INPUT J$
190 PRINT CHR$(12)
200 GOTO 350
210 A=INT(RND(1)*30)+1
220 B=INT(RND(1)*(30-A))+8
230 FOR H=1 TO B/2
240 FOR C=1 TO A
250 PRINT "*";
260 NEXT C
270 FOR T=1 TO B+1
280 PRINT " ";
290 NEXT T
300 FOR C=1 TO 37-(A+B)
310 PRINT "*";
320 NEXT C
330 PRINT "*"
340 NEXT H
350 FOR S=1 TO 5
360 FOR D=1 TO 38
370 PRINT "*";
380 NEXT D
390 PRINT "*"
400 NEXT S
410 GOTO 210
```

☐ If You Have . . .

APPLE II

Add: 225 B=B-1
    295 IF(A+B)>36 THEN 330

Change: 170 PRINT "HIT THE RETURN KEY TO OPEN THE PORT";
     190 HOME

ATARI

Add: 95 DIM J$(1)
   305 IF A+B>34 THEN 330

```
Change: 170 PRINT "HIT THE RETURN KEY TO OPEN THE PORT";
        190 PRINT CHR$(125)
        210 A=INT(RND(Ø)*28)+1
        220 B=INT(RND(Ø)*(28-A))+8
        300 FOR C=1 TO 35-(A+B)
        360 FOR D=1 TO 36
```

COMMODORE 64

```
Add:    295 IF (A+B)=37 THEN 33Ø
```

```
Change: 170 PRINT "HIT THE RETURN KEY TO OPEN THE PORT";
        190 PRINT CHR$(147)
        210 A=INT(RND(Ø)*30)+1
        220 B=INT(RND(Ø)*(30-A))+8
```

COMMODORE VIC-20

```
Change: 170 PRINT "HIT THE RETURN KEY TO OPEN THE PORT"
        190 PRINT CHR$(147)
        210 A=INT(RND(Ø)*15)+1
        220 B=INT(RND(Ø)*(11-A))+5
        270 FOR T=1 TO B+2
        300 FOR C=1 TO 18-(A+B)
        360 FOR D=1 TO 20
```

TEXAS INSTRUMENTS 99/4A

```
Change: 100 PRINT "LADIES AND GENTLEMEN, THIS  IS YOUR"
        110 PRINT "AUTOMATIC COMPUTER PILOT     SPEAKING."
        120 PRINT "FLIGHT #8923 TO RIGEL AND    CASSIOPEIA"
        130 PRINT "IS NOW APPROACHING THE       REGION OF"
        140 PRINT "BLACK HOLES. IF YOU LOOK OUT YOUR"
        170 PRINT "HIT THE ENTER KEY TO OPEN  THE PORT"
        190 CALL CLEAR
        210 A=INT(RND*30)+1
        220 B=INT(RND*(30-A))+8
        300 FOR C=1 TO 26-(A+B)
        360 FOR D=1 TO 27
```

TRS-80 COLOR COMPUTER

```
Change: 190 CLS
        210 A=RND(26)
        220 B=RND(26-A)
        300 FOR C=1 TO 29-(A+B)
        360 FOR D=1 TO 30
```

Mysterious Moon Maze

On the surface of some moons, you'll find giant, hollow crystals. They're exciting to explore — if you don't get lost inside. But that's exactly what you've done. Find your way out, or you'll never see home again!

☐ Sample Run

```
WHAT IS THE NAME OF YOUR SHINY NEW
SPACE SHIP? USS PRETZEL

YOU ARE ON A NEWLY DISCOVERED MOON OF
THE PLANET SATURN.  IT IS MADE OUT OF
STACKS OF HOLLOW CUBES.  WHILE
EXPLORING YOU HAVE GOTTEN LOST IN THE
MAZE OF THESE CUBES.  EACH ONE HAS SIX
SURFACES, AND THERE IS A SMALL DOOR IN
EACH SURFACE.  HOW FAST CAN YOU ESCAPE
FROM THIS TREACHEROUS MAZE OF CUBES?


========================================

HOW MANY CUBES ARE ON THIS MOON (2-20)? 4

========================================


YOU ARE IN CUBE NUMBER 1

     1--UP        2--DOWN
     3--NORTH     4--SOUTH
     5--EAST      6--WEST

WHICH DOOR DO YOU WANT TO TRY? 4


========================================

   *** RIGHT!!  NOW ON TO CUBE 2 ***

========================================


YOU ARE IN CUBE NUMBER 2

     1--UP        2--DOWN
     3--NORTH     4--SOUTH
     5--EAST      6--WEST

WHICH DOOR DO YOU WANT TO TRY? 4
```

38

```
=========================================

   *** RIGHT!!   NOW ON TO CUBE 3 ***

=========================================


YOU ARE IN CUBE NUMBER 3

    1--UP        2--DOWN
    3--NORTH     4--SOUTH
    5--EAST      6--WEST

WHICH DOOR DO YOU WANT TO TRY? 5

=========================================

    SORRY! DOOR 5 WON'T OPEN!
    NOW TRY ANOTHER ONE...

=========================================

YOU ARE IN CUBE NUMBER 3

    1--UP        2--DOWN
    3--NORTH     4--SOUTH
    5--EAST      6--WEST

WHICH DOOR DO YOU WANT TO TRY? 6

=========================================

   *** RIGHT!!   NOW ON TO CUBE 4 ***

=========================================


YOU ARE IN CUBE NUMBER 4

    1--UP        2--DOWN
    3--NORTH     4--SOUTH
    5--EAST      6--WEST

WHICH DOOR DO YOU WANT TO TRY? 6

    YOU DID IT!!   YOU ESCAPED!!
    THERE WERE 4 CUBES, AND
    IT TOOK YOU ONLY 5 TRIES
    TO DO IT!!

=========================================
WANT TO TRY AGAIN (YES OR NO)? NO
```

☐ Program Listing

```
10 REM MYSTERIOUS MOON MAZE
100 PRINT "WHAT IS THE NAME OF YOUR SHINY NEW"
110 PRINT "SPACE SHIP";
120 INPUT V$
130 IF LEN(V$)<2 THEN 100
140 RANDOMIZE ASC(MID$(V$,1,1))*ASC(MID$(V$,2,1))
150 PRINT
160 PRINT "YOU ARE ON A NEWLY DISCOVERED MOON OF"
170 PRINT "THE PLANET SATURN.  IT IS MADE OUT OF"
180 PRINT "STACKS OF HOLLOW CUBES.  WHILE"
190 PRINT "EXPLORING YOU HAVE GOTTEN LOST IN THE"
200 PRINT "MAZE OF THESE CUBES.  EACH ONE HAS SIX"
210 PRINT "SURFACES, AND THERE IS A SMALL DOOR IN"
220 PRINT "EACH SURFACE.  HOW FAST CAN YOU ESCAPE"
230 PRINT "FROM THIS TREACHEROUS MAZE OF CUBES?"
240 PRINT
250 GOSUB 760
260 PRINT "HOW MANY CUBES ARE ON THIS MOON (2-20)";
270 INPUT C
280 IF C<2 THEN 260
290 IF C>20 THEN 260
300 GOSUB 760
310 K=K+1
320 R=INT(RND(1)*6)+1
330 IF R=X THEN 320
340 PRINT
350 PRINT "YOU ARE IN CUBE NUMBER ";K
360 PRINT
370 PRINT TAB(5);"1--UP";TAB(16);"2--DOWN"
380 PRINT TAB(5);"3--NORTH";TAB(16);"4--SOUTH"
390 PRINT TAB(5);"5--EAST";TAB(16);"6--WEST"
400 PRINT
410 PRINT "WHICH DOOR DO YOU WANT TO TRY";
420 INPUT G
430 M=M+1
440 IF G>6 THEN 340
450 IF G<1 THEN 340
460 IF G=R THEN 540
470 GOSUB 760
480 PRINT TAB(5);"SORRY! DOOR ";G;" WON'T OPEN!"
490 IF G=X THEN PRINT TAB(5);"YOU JUST CAME FROM THERE"
500 IF G=X THEN PRINT TAB(5);"AND IT LOCKED BEHIND YOU!"
510 PRINT TAB(5);"NOW TRY ANOTHER ONE..."
520 GOSUB 760
530 GOTO 350
540 PRINT
550 IF INT(R/2)=R/2 THEN X=R-1
560 IF INT(R/2)<>R/2 THEN X=R+1
570 IF K=C THEN 620
580 GOSUB 760
590 PRINT TAB(3);"*** RIGHT!!  NOW ON TO CUBE ";K+1;" ***"
```

```
600 GOSUB 760
610 GOTO 310
620 PRINT TAB(5);"YOU DID IT!!   YOU ESCAPED!!"
630 PRINT TAB(5);"THERE WERE ";K;" CUBES, AND"
640 PRINT TAB(5);"IT TOOK YOU ";
650 IF M<C*3 THEN PRINT "ONLY ";
660 PRINT M;" TRIES"
670 PRINT TAB(5);"TO DO IT!!"
680 GOSUB 760
690 PRINT "WANT TO TRY AGAIN (YES OR NO)";
700 INPUT Y$
710 IF MID$(Y$,1,1)="N" THEN END
720 K=0
730 M=0
740 GOTO 250
750 REM --- LINE SUBROUTINE ---
760 PRINT
770 FOR L=1 TO 39
780 PRINT "=";
790 NEXT L
800 PRINT
810 PRINT
820 RETURN
```

☐ If You Have . . .

APPLE II

Delete: 140

ATARI

Delete: 140

Add:
```
95 DIM V$(40),Y$(3)
381 IDX=2:GOSUB 835:PRINT "4--SOUTH"
391 IDX=3:GOSUB 835:PRINT "6--WEST"
835 FOR AA=1 TO IDX
845 PRINT " ";:NEXT AA:RETURN
```

Change:
```
320 R=INT(RND(0)*6)+1
370 IDX=4:GOSUB 835:PRINT "1--UP";:IDX=5:
    GOSUB 835:PRINT "2--DOWN"
380 IDX=4:GOSUB 835:PRINT "3--NORTH";
390 IDX=4:GOSUB 835:PRINT "5--EAST";
480 IDX=4:GOSUB 835:PRINT "SORRY! DOOR ";G;
    " WON'T OPEN!"
```

```
490 IF G=X THEN GOSUB 835:PRINT "YOU JUST CAME
    FROM THERE"
500 IF G=X THEN GOSUB 835:PRINT "AND IT LOCKED
    BEHIND YOU!"
510 GOSUB 835:PRINT "NOW TRY ANOTHER ONE..."
590 IDX=2:GOSUB 835:PRINT "*** RIGHT!!  NOW ON TO
    CUBE ";K+1;"***"
620 IDX=4:GOSUB 835:PRINT "YOU DID IT!! YOU
    ESCAPED!!"
630 GOSUB 835:PRINT "THESE WERE ";K;" CUBES, AND"
640 GOSUB 835:PRINT "IT TOOK YOU ";
670 GOSUB 835:PRINT "TO DO IT!!"
710 IF Y$(1,1)="N" THEN END
770 FOR L=1 TO 37
```

COMMODORE 64

Delete: 140

Change: 320 R=INT(RND(0)*6)+1

COMMODORE VIC-20

Delete: 140

Change: 110 PRINT "SPACE SHIP"
         260 PRINT "HOW MANY CUBES ARE ON THIS MOON (2-20)"
         320 R=INT(RND(0)*6)+1
         370 PRINT TAB(3);"1--UP";TAB(13);"2--DOWN"
         380 PRINT TAB(3);"3--NORTH";TAB(13);"4--SOUTH"
         390 PRINT TAB(3);"5--EAST";TAB(13);"6--WEST"
         410 PRINT "WHICH DOOR DO YOU WANT TO TRY"
         690 PRINT "WANT TO TRY AGAIN (YES OR NO)"
         770 FOR L=1 TO 21

TEXAS INSTRUMENTS 99/4A

Add: 492 PRINT TAB(5);"YOU JUST CAME FROM THERE"
      552 X=R-1
      562 X=R+1
      652 PRINT "ONLY ";
      845 END

Change: 100 PRINT "WHAT IS THE NAME OF YOUR   SHINY NEW"
         140 RANDOMIZE
         170 PRINT "THE PLANET SATURN. IT IS   MADE OUT OF"
         180 PRINT "STACKS OF HOLLOW CUBES.   WHILE"
         190 PRINT "EXPLORING YOU HAVE GOTTEN   LOST IN THE"
         200 PRINT "MAZE OF THESE CUBES. EACH   ONE HAS SIX"
         210 PRINT "SURFACES, AND THERE IS A   SMALL DOOR IN"
         230 PRINT "FROM THIS TREACHEROUS MAZE   OF CUBES?"
         260 PRINT "HOW MANY CUBES ARE ON THIS   MOON (2-20)";

42
```

```
320 R=INT(RND*6)+1
410 PRINT "WHICH DOOR DO YOU WANT TO   TRY";
490 IF G<>X THEN 510
500 PRINT TAB(5);"AND IT LOCKED BEHIND YOU!"
550 IF INT(R/2)<>R/2 THEN 560
560 IF INT(R/2)=R/2 THEN 570
650 IF M>=C*3 THEN 660
710 IF SEG$(Y$,1,1)="N" THEN 845
770 FOR L=1 TO 27
```

TRS-80 COLOR COMPUTER

Delete: `140,240`

Change:
```
160 PRINT "YOU ARE ON A NEWLY DISCOVERED MOON OF ";
170 PRINT "THE PLANET SATURN.  IT IS MADE OUT OF ";
180 PRINT "STACKS OF HOLLOW CUBES.  WHILE ";
190 PRINT "EXPLORING YOU HAVE GOTTEN LOST IN THE ";
200 PRINT "MAZE OF THESE CUBES.  EACH ONE HAS SIX ";
320 R=RND(6)
590 PRINT "RIGHT!!  NOW ON TO CUBE ";K+1
770 FOR L=1 TO 31
```

What a View!

When you're captain of a great star cruiser, you're busy every minute.
But it's important to take time out to enjoy the view.
Run this program and you'll see a spectacular one!

☐ Sample Run

```
WHAT IS YOUR LAST NAME? MUMBLEGRUBBER

OK, CAPTAIN MUMBLEGRUBBER, YOU ARE ON
THE BRIDGE OF THE STARSHIP USS
KEYBOARD II.  YOU'VE JUST SPENT
THE NIGHT BATTLING EVIL ALIENS
AND YOU'RE READY FOR A SHOWER
(NOT A METEOR SHOWER, THE OTHER
KIND) AND A GOOD LONG REST.  YOU
DESERVE IT!

THIS ELEVATOR WILL TAKE YOU DOWN TO
THE OFFICER'S CABIN LEVEL.  WE ARE
TRAVELING IN A BEAUTIFUL QUADRANT OF
THE UNIVERSE, SO WHY NOT LOOK OUT THE
WINDOW AND ENJOY THE VIEW AS YOU
DESCEND--HIT THE ENTER KEY TO START?


   ==================================
   !                                !
   !                   *            !
   !    *                           !
   !                                !
   !      *                         !
   !                 *              !
   !                                !
   !           *                    !
   !                       *        !
   !                        *     ! !
   !                          *   ! !
   !                        *       !
   !                                !
   ==================================

         ======================
         !     *            !
         !             *    !
         !     *            !
         !       *          !
         !           *      !
         !     *            !
         !                  !
         ======================
```

```
============================
!                   *       !
!               *           !
!                           !
!                   *       !
!                     *     !
!   *                       !
!                   *       !
!     *                     !
!             *             !
============================
```

** ONLY 1000 MORE FLOORS TO GO **

```
=============
!         * !
!   *       !
!     *     !
!       *   !
!   *       !
=============
```

```
==========================
!     *           *       !
!                         !
!             *           !
!       *                 !
!                   *     !
!     *                   !
!                         !
!                 *       !
==========================
```

Break

☐ Program Listing

```
10  REM WHAT A VIEW!
100 PRINT "WHAT IS YOUR LAST NAME";
110 INPUT L$
120 IF L$="" THEN 100
130 PRINT
140 PRINT "OK, CAPTAIN ";L$;", YOU ARE ON"
150 PRINT "THE BRIDGE OF THE STARSHIP USS"
160 PRINT "KEYBOARD II.  YOU'VE JUST SPENT"
170 PRINT "THE NIGHT BATTLING EVIL ALIENS"
180 PRINT "AND YOU'RE READY FOR A SHOWER"
```

```
190 PRINT "(NOT A METEOR SHOWER, THE OTHER"
200 PRINT "KIND) AND A GOOD LONG REST.  YOU"
210 PRINT "DESERVE IT!"
220 PRINT
230 PRINT "THIS ELEVATOR WILL TAKE YOU DOWN TO"
240 PRINT "THE OFFICER'S CABIN LEVEL.  WE ARE"
250 PRINT "TRAVELING IN A BEAUTIFUL QUADRANT OF"
260 PRINT "THE UNIVERSE, SO WHY NOT LOOK OUT THE"
270 PRINT "WINDOW AND ENJOY THE VIEW AS YOU"
280 PRINT "DESCEND--HIT THE ENTER KEY TO START";
290 INPUT F$
300 PRINT
310 K=0
320 L=1000
330 A=INT(RND(1)*29)+1
340 B=INT(RND(1)*(37-A))+1
350 IF A>=B THEN 330
360 PRINT TAB(A+1);
370 FOR T=1 TO B+1
380 PRINT "=";
390 NEXT T
400 FOR S=1 TO B
410 IF INT(RND(1)*3)<>2 THEN 470
420 Z=INT(RND(1)*(B-A)+1)
430 IF Z=OLDZ THEN Z=Z+1
440 OLDZ=Z
450 PRINT TAB(A+1);"!";TAB(A+1+Z);"*";TAB(A+1+B);"!"
460 GOTO 480
470 PRINT TAB(A+1);"!";TAB(A+1+B);"!"
480 NEXT S
490 PRINT TAB(A+1);
500 FOR R=1 TO B+1
510 PRINT "=";
520 NEXT R
530 FOR M=1 TO 5
540 PRINT
550 NEXT M
560 K=K+1
570 IF K<>4 THEN 670
580 PRINT TAB(2);"** ONLY ";L;" MORE FLOORS TO GO **"
590 FOR N=1 TO 4
600 PRINT
610 NEXT N
620 L=L-4
630 IF L>0 THEN 660
640 PRINT TAB(2);"WELL, IT'S MORNING--TIME TO GET UP!"
650 END
660 K=0
670 GOTO 330
```

☐ If You Have . . .

APPLE II

Add: 395 PRINT

Change: 280 PRINT "DESCEND--HIT THE RETURN KEY TO START";

ATARI

```
Add:    95 DIM L$(40),F$(1)
       395 PRINT
       455 IDX=(B-Z-1):GOSUB 685:PRINT "!"
       685 FOR AA=1 TO IDX
       695 PRINT " ";:NEXT AA:RETURN
```

```
Change: 280 PRINT "DESCEND--HIT THE RETURN KEY TO START";
        330 A=INT(RND(0)*29)+1
        340 B=INT(RND(0)*(34-A))+1
        350 IF A>B THEN 330
        360 IDX=(A+1):GOSUB 685
        370 FOR T=1 TO B+2
        410 IF INT(RND(0)*3)<>2 THEN 470
        420 Z=INT(RND(0)*(B-A)+1)
        450 IDX=(A+1):GOSUB 685:PRINT "!";:IDX=Z:GOSUB 685:
            PRINT "*";
        470 IDX=(A+1):GOSUB 685:PRINT "!";:IDX=B:GOSUB 685:
            PRINT "!"
        490 IDX=(A+1):GOSUB 685
        500 FOR R=1 TO B+2
        580 IDX=2:GOSUB 685:PRINT "** ONLY ";L;"MORE FLOORS
            TO GO **"
        640 IDX=2:GOSUB 685:PRINT "WELL, IT'S MORNING--TIME
            TO GET UP!"
```

COMMODORE 64

Add: 395 PRINT

```
Change: 280 PRINT "DESCEND--HIT RETURN KEY TO START";
        330 A=INT(RND(0)*29)+1
        340 B=INT(RND(0)*(37-A))+1
        410 IF INT(RND(0)*3)<>2 THEN 470
        420 Z=INT(RND(0)*(B-A)+1)
```

COMMODORE VIC-20

```
Add:   395 PRINT
       225 INPUT TXT$
```

```
Change: 100 PRINT "WHAT IS YOUR LAST NAME"
        220 PRINT "HIT RETURN TO CONTINUE"
```
(continued)

47

```
280 PRINT "DESCEND--HIT RETURN KEY TO START"
330 A=INT(RND(0)*25)+1
340 B=INT(RND(0)*(20-A))+1
370 FOR T=1 TO B
410 IF INT(RND(0)*3)<>2 THEN 470
420 Z=INT(RND(0)*(B-A)+1)
450 PRINT TAB(A+1);"!";TAB(A+Z);"*";TAB(A+B);"!"
470 PRINT TAB(A+1);"!";TAB(A+B);"!"
500 FOR R=1 TO B
```

TEXAS INSTRUMENTS 99/4A

Add:
```
222 PRINT "HIT ENTER TO CONTINUE"
224 INPUT D$
432 Z=Z+1
```

Change:
```
150 PRINT "THE BRIDGE OF THE STARSHIP    USS"
170 PRINT "THE NIGHT BATTLING EVIL       ALIENS"
190 PRINT "(NOT A METEOR SHOWER, THE     OTHER"
250 PRINT "TRAVELING IN A BEAUTIFUL      QUADRANT OF"
260 PRINT "THE UNIVERSE, SO WHY NOT      LOOK OUT THE"
280 PRINT "DESCEND---HIT THE ENTER KEY TO START";
320 L=200
330 A=INT(RND*19)+1
340 B=INT(RND*(27-A))+1
410 IF INT(RND*3)<>2 THEN 470
420 Z=INT(RND*(B-A)+1)
430 IF Z<>OLDZ THEN 440
```

TRS-80 COLOR COMPUTER

Add: `395 PRINT`

Change:
```
140 PRINT "OK, CAPTAIN ";L$;", YOU ARE ON ";
150 PRINT "THE BRIDGE OF THE STARSHIP USS ";
160 PRINT "KEYBOARD II.  YOU'VE JUST SPENT ";
170 PRINT "THE NIGHT BATTLING EVIL ALIENS ";
180 PRINT "AND YOU'RE READY FOR A SHOWER ";
190 PRINT "(NOT A METEOR SHOWER, THE OTHER ";
200 PRINT "KIND) AND A GOOD LONG REST. YOU ";
210 PRINT "DESERVE IT! ";
230 PRINT "THIS ELEVATOR WILL TAKE YOU DOWN TO ";
240 PRINT "THE OFFICER'S CABIN LEVEL.  WE ARE ";
250 PRINT "TRAVELING IN A BEAUTIFUL QUADRANT OF ";
260 PRINT "THE UNIVERSE, SO WHY NOT LOOK OUT THE ";
270 PRINT "WINDOW AND ENJOY THE VIEW AS YOU ";
330 A=RND(25)
340 B=RND(27-A)
410 IF RND(3)<>2 THEN 470
420 Z=RND(B-A)
```

Deep Space Sheriff

You're looking for an intergalactic desperado — and it's looking for you!
Find it on a far-off moon and put it back behind bars.
Just don't let it find you first!

☐ Sample Run

```
YOU ARE THE SHERIFF OF THIS PART OF
THE GALAXY.  YOU ARE CHASING AN
ESCAPED ALIEN DESPERADO.  YOU ARE
THE ONLY TWO BEINGS ON A LONELY MOON
THAT HAS TEN HUGE CRATERS.

IF YOU FIND THE ALIEN BEFORE IT
FINDS YOU, YOU'LL BE ABLE TO TAKE IT
BACK TO PRISON ON EARTH.  BUT IF IT
FINDS YOU FIRST, IT WILL EAT YOU.

          HAPPY HUNTING!

WHAT'S YOUR NAME, SHERIFF? WYATT GARP

HOW MANY DESPERADOS HAVE YOU CAUGHT? 5

WHICH CRATER DO YOU WANT TO LOOK IN? 3


-------------------------------------
YOU ARE HUNTING IN CRATER 3
THE ALIEN IS IN CRATER 6--NOT HERE!
-------------------------------------


-------------------------------------
THE ALIEN JUST LOOKED FOR YOU
IN CRATER 10--BUT HE MIGHT HAVE
GONE SOMEWHERE ELSE BY NOW.

WHICH CRATER DO YOU WANT TO LOOK IN? 7
-------------------------------------


-------------------------------------
YOU ARE HUNTING IN CRATER 7
THE ALIEN IS IN CRATER 5--NOT HERE!
-------------------------------------


-------------------------------------
THE ALIEN JUST LOOKED FOR YOU
IN CRATER 1--BUT HE MIGHT HAVE
GONE SOMEWHERE ELSE BY NOW.

WHICH CRATER DO YOU WANT TO LOOK IN? 2
-------------------------------------
```

```
------------------------------------------
YOU ARE HUNTING IN CRATER 2
THE ALIEN IS IN CRATER 5--NOT HERE!
------------------------------------------


------------------------------------------
THE ALIEN JUST LOOKED FOR YOU
IN CRATER 6--BUT HE MIGHT HAVE
GONE SOMEWHERE ELSE BY NOW.

WHICH CRATER DO YOU WANT TO LOOK IN? 9
------------------------------------------


------------------------------------------
YOU ARE HUNTING IN CRATER 9
GOOD WORK, SHERIFF WYATT GARP!
YOU FOUND THE LITTLE GREEN THING--
WRAP IT UP AND TAKE IT BACK HOME!
------------------------------------------
ANOTHER ALIEN'S ON THE LOOSE!
DO YOU WANT TO TRY AND FIND IT? NO
```

☐ Program Listing

```
10 REM DEEP SPACE SHERIFF
100 PRINT
110 PRINT "YOU ARE THE SHERIFF OF THIS PART OF"
120 PRINT "THE GALAXY.  YOU ARE CHASING AN"
130 PRINT "ESCAPED ALIEN DESPERADO.  YOU ARE"
140 PRINT "THE ONLY TWO BEINGS ON A LONELY MOON"
150 PRINT "THAT HAS TEN HUGE CRATERS."
160 PRINT
170 PRINT "IF YOU FIND THE ALIEN BEFORE IT"
180 PRINT "FINDS YOU, YOU'LL BE ABLE TO TAKE IT"
190 PRINT "BACK TO PRISON ON EARTH.  BUT IF IT"
200 PRINT "FINDS YOU FIRST, IT WILL EAT YOU."
210 PRINT
220 PRINT TAB(7);"HAPPY HUNTING!"
230 PRINT
240 PRINT "WHAT'S YOUR NAME, SHERIFF";
250 INPUT N$
260 IF LEN(N$)<2 THEN 240
270 GOSUB 760
280 PRINT "HOW MANY DESPERADOS HAVE YOU CAUGHT";
290 INPUT R
300 IF R=0 THEN 280
310 RANDOMIZE R
320 C=INT(RND(1)*10)+1
330 A=INT(RND(1)*10)+1
340 IF C=A THEN 320
350 PRINT
360 GOTO 510
```

```
370 GOSUB 600
380 PRINT "YOU ARE HUNTING IN CRATER ";C
390 IF C=A THEN 650
400 PRINT "THE ALIEN IS IN CRATER ";A;" --NOT HERE!"
410 GOSUB 600
420 GOSUB 760
430 GOSUB 600
440 A=INT(RND(1)*10)+1
450 IF A=C THEN 710
460 PRINT "THE ALIEN JUST LOOKED FOR YOU"
470 PRINT "IN CRATER ";A;" --BUT HE MIGHT HAVE"
480 PRINT "GONE SOMEWHERE ELSE BY NOW."
490 PRINT
500 A=INT(RND(1)*10)+1
510 PRINT "WHICH CRATER DO YOU WANT TO LOOK IN";
520 INPUT C$
530 C=VAL(C$)
540 IF C>0 AND C<11 THEN 570
550 PRINT "THERE'S NO CRATER ";C;" ON THIS MOON!"
560 GOTO 510
570 GOSUB 600
580 GOSUB 760
590 GOTO 370
600 FOR B=1 TO 38
610 PRINT "-";
620 NEXT B
630 PRINT "-"
640 RETURN
650 PRINT "GOOD WORK, SHERIFF ";N$;"!"
660 PRINT "YOU FOUND THE LITTLE GREEN THING--"
670 PRINT "WRAP IT UP AND TAKE IT BACK HOME!"
680 GOSUB 600
690 GOTO 800
700 END
710 PRINT "THE ALIEN SNUCK UP ON YOU FROM BEHIND!"
720 PRINT "SHERIFF ";N$;",";" YOU'RE FINGER-LICKIN' GOOD!"
730 GOSUB 600
740 GOTO 800
750 END
760 FOR S=1 TO 3
770 PRINT
780 NEXT S
790 RETURN
800 GOSUB 760
810 PRINT "ANOTHER ALIEN'S ON THE LOOSE!"
820 PRINT "DO YOU WANT TO TRY AND FIND IT";
830 INPUT A$
840 IF MID$(A$,1,1)="N" THEN END
850 GOSUB 760
860 GOTO 320
```

☐ If You Have . . .

APPLE II

Delete: 310

Change: 340 IF A=C THEN 320
       390 IF A=C THEN 650

ATARI

Delete: 310

Add: 95 DIM N$(40),C$(2),A$(3)

Change: 220 PRINT "   ";"HAPPY HUNTING!"
       320 C=INT(RND(0)*10)+1
       330 A=INT(RND(0)*10)+1
       440 A=INT(RND(0)*10)+1
       500 A=INT(RND(0)*10)+1
       600 FOR B=1 TO 36
       840 IF A$(1,1)="N" THEN END

COMMODORE 64

Change: 310 REM
       320 C=INT(RND(0)*10)+1
       330 A=INT(RND(0)*10)+1
       440 A=INT(RND(0)*10)+1
       500 A=INT(RND(0)*10)+1

COMMODORE VIC-20

Delete: 210,230,310

Change: 240 PRINT "WHAT'S YOUR NAME, SHERIFF"
       280 PRINT "HOW MANY DESPERADOS HAVE YOU CAUGHT"
       320 C=INT(RND(0)*10)+1
       330 A=INT(RND(0)*10)+1
       440 A=INT(RND(0)*10)+1
       500 A=INT(RND(0)*10)+1
       510 PRINT "WHICH CRATER DO YOU WANT TO LOOK IN"
       600 FOR B=1 TO 21
       820 PRINT "DO YOU WANT TO TRY AND FIND IT"

TEXAS INSTRUMENTS 99/4A

Add: 522 IF C$="" THEN 510
        885 END

Change: 130 PRINT "ESCAPED ALIEN DESPERADO.   YOU ARE"
        140 PRINT "THE ONLY TWO BEINGS ON A   LONELY MOON"
        190 PRINT "BACK TO PRISON ON EARTH. BUT IF IT"
        310 RANDOMIZE
        320 C=INT(RND*10)+1
        330 A=INT(RND*10)+1
        440 A=INT(RND*10)+1
        500 A=INT(RND*10)+1
        540 IF (C>0)*(C<11) THEN 570
        600 FOR B=1 TO 27
        660 PRINT "YOU FOUND THE LITTLE GREEN THING--"
        840 IF SEG$(A$,1,1)="N" THEN 885

TRS-80 COLOR COMPUTER

Delete: 310,770,780

Change: 110 PRINT "YOU ARE THE SHERIFF OF THIS PART ";
        120 PRINT "THE GALAXY. YOU ARE CHASING AN ";
        130 PRINT "ESCAPED ALIEN DESPERADO. YOU ARE ";
        140 PRINT "THE ONLY TWO BEINGS ON A LONELY MOON ";
        150 PRINT "THAT HAS TEN HUGE CRATERS. ";
        170 PRINT "IF YOU FIND THE ALIEN BEFORE IT ";
        180 PRINT "FINDS YOU, YOU'LL BE ABLE TO TAKE IT ";
        190 PRINT "BACK TO PRISON ON EARTH. BUT IF IT ";
        200 PRINT "FINDS YOU FIRST, IT WILL EAT YOU. ";
        320 C=RND(10)
        330 A=RND(10)
        440 A=RND(10)
        470 PRINT "IN CRATER ";A;" --BUT HE MIGHT HAVE ";
        500 A=RND(10)
        600 FOR I=1 TO 30
        760 REM

__Planet of the Shapes__

When you live on the Planet of the Shapes, it's a compliment to be called square. And there are a lot of folks who don't mind their pointy heads a bit. Type in this program and take a visit.

☐ Sample Run

```
ON THE PLANET OF THE SHAPES, THE
PEOPLE HAVE GEOMETRIC FIGURES.
WHILE YOU MIGHT THINK THEY LOOK
FUNNY, THEY THINK YOU LOOK JUST
HILARIOUS!

THE SHAPE KIDS ARE GETTING VERY
RESTLESS BECAUSE SCHOOL WILL BE
OUT SOON AND THEY'LL GET TO GO
HOME TO THEIR TRIANGULAR CATS AND
SQUARE DOGS.  YOU CAN GET THEM OUT
EARLY BY RINGING THE SCHOOL BELL.
JUST HIT THE ENTER KEY, AND SCHOOL
WILL BE OUT?

        HERE THEY COME!!!
        HERE THEY COME!!!
        HERE THEY COME!!!
        HERE THEY COME!!!
        HERE THEY COME!!!
        HERE THEY COME!!!
        HERE THEY COME!!!
        HERE THEY COME!!!

          **********
         **********
        **********
       **********
      **********
                        *
                       ***
                      *****
                     *******
                    ********

       **********
        **********
         **********
          **********
           **********

         WHEEEE!
```

```
                    ********
                    ********
                    ********
                    ********

         HOORAY!

           ********
          ********
         ********
        ********

                            *
                           ***
                          *****
                         *******

              ********
               ********
                ********
                 ********

         HOORAY!

                    **********
                    **********
                    **********
                    **********
                    **********

         OH BOY!

            **********
           **********
          **********
         **********
        **********

         OH BOY!

   Break
```

☐ Program Listing

```
10 REM PLANET OF THE SHAPES
100 PRINT "ON THE PLANET OF THE SHAPES, THE"
110 PRINT "PEOPLE HAVE GEOMETRIC FIGURES."
120 PRINT "WHILE YOU MIGHT THINK THEY LOOK"
130 PRINT "FUNNY, THEY THINK YOU LOOK JUST"
140 PRINT "HILARIOUS!"
150 PRINT
160 PRINT "THE SHAPE KIDS ARE GETTING VERY"
```

```
170 PRINT "RESTLESS BECAUSE SCHOOL WILL BE"
180 PRINT "OUT SOON AND THEY'LL GET TO GO"
190 PRINT "HOME TO THEIR TRIANGULAR CATS AND"
200 PRINT "SQUARE DOGS.  YOU CAN GET THEM OUT"
210 PRINT "EARLY BY RINGING THE SCHOOL BELL."
220 PRINT "JUST HIT THE ENTER KEY, AND SCHOOL"
230 PRINT "WILL BE OUT";
240 INPUT H$
250 PRINT CHR$(7)
260 PRINT
270 FOR G=1 TO 25
280 PRINT TAB(7);"HERE THEY COME!!!"
290 NEXT G
300 FOR V=1 TO 25
310 PRINT
320 NEXT V
330 A=INT(RND(1)*30)+1
340 B=INT(RND(1)*(30-A))+8
350 REM --- BOX ---
360 FOR H=1 TO B/2
370 PRINT TAB(A);
380 FOR T=1 TO B+1
390 PRINT "*";
400 NEXT T
410 NEXT H
420 GOSUB 810
430 REM --- PARALLELOGRAM LEFT ---
440 IF A<B+2 THEN 530
450 FOR H=1 TO B/2
460 PRINT TAB(A-H-8);
470 FOR T=1 TO B+1
480 PRINT "*";
490 NEXT T
500 NEXT H
510 GOSUB 810
520 REM --- TRIANGLE UP ---
530 IF A<B/2 THEN 330
540 FOR C=1 TO B STEP 2
550 PRINT TAB(A-C/2);
560 FOR D=1 TO C
570 PRINT "*";
580 NEXT D
590 NEXT C
600 GOSUB 810
610 REM --- PARALLELOGRAM RIGHT ---
620 FOR H=1 TO B/2
630 PRINT TAB(A+H-8);
640 FOR T=1 TO B+1
650 PRINT "*";
660 NEXT T
670 NEXT H
680 GOSUB 810
690 REM --- TRIANGLE UP ---
700 IF A<B/2 THEN 330
```

```
710  IF B/2=4 OR B/2=5 OR B/2=6 OR B/2=7 OR B/2=8 THEN 330
720  IF B/2=9 OR B/2=10 OR B/2=11 THEN 330
730  FOR C=B TO 1 STEP -2
740  PRINT TAB(A-C/2);
750  FOR D=1 TO C
760  PRINT "*";
770  NEXT D
780  NEXT C
790  GOSUB 810
800  GOTO 330
810  FOR S=1 TO 5
820  PRINT
830  NEXT S
840  ON INT(RND(1)*6)+1 GOTO 850,870,890,910,910,910
850  PRINT TAB(10);"HOORAY!"
860  GOTO 910
870  PRINT TAB(10);"OH BOY!"
880  GOTO 910
890  PRINT TAB(10);"WHEEEE!"
900  GOTO 910
910  FOR Y=1 TO 4
920  PRINT
930  NEXT Y
940  RETURN
```

☐ If You Have . . .

APPLE II

```
Add:    345  B=B-1
        405  PRINT
        495  PRINT
        585  PRINT
        615  IF A<8 THEN 700
        617  IF (A+B/2+B)>39 THEN 700
        665  PRINT
        775  PRINT
```

```
Change: 220  PRINT "JUST HIT THE RETURN KEY, AND SCHOOL"
        440  IF A<=B+3 THEN 530
        530  IF A<=B/2 THEN 330
        630  PRINT TAB(A+H);
        700  IF A<=B/2+1 THEN 330
```

ATARI

```
Add:    95   DIM H$(1)
        405  PRINT
        495  PRINT
        585  PRINT
        665  PRINT
```

(continued)

```
            775  PRINT
            955  FOR AA=1 TO IDX
            965  PRINT " ";:NEXT AA:RETURN

Change:     220  PRINT "JUST HIT THE RETURN KEY, AND SCHOOL"
            250  PRINT CHR$(253)
            280  IDX=6:GOSUB 955:PRINT "HERE THEY COME!!!"
            330  A=INT(RND(0)*28)+1
            340  B=INT(RND(0)*(28-A))+8
            370  IDX=A:GOSUB 955
            460  IDX=(A-H-8):GOSUB 955
            550  IDX=(A-C/2):GOSUB 955
            630  IDX=(A+H-8):GOSUB 955
            740  IDX=(A-C/2):GOSUB 955
            840  ON INT(RND(0)*6)+1 GOTO 850,870,890,910,910,910
            850  IDX=10:PRINT "HOORAY!"
            870  IDX=10:PRINT "OH BOY!"
            890  IDX=10:PRINT "WHEEEE!"
```

COMMODORE 64

Delete: 250

```
Add:    405  PRINT
        495  PRINT
        585  PRINT
        665  PRINT
        775  PRINT
```

```
Change:  220  PRINT "JUST HIT THE RETURN KEY, AND SCHOOL"
         330  A=INT(RND(0)*30)+1
         340  B=INT(RND(0)*(30-A))+8
         840  ON INT(RND(0)*6)+1 GOTO 850,870,890,910,910,910
```

COMMODORE VIC-20

Delete: 250

```
Add:    155  INPUT TP$
        405  PRINT
        495  PRINT
        585  PRINT
        665  PRINT
        775  PRINT
```

```
Change:  150  PRINT "HIT THE RETURN KEY FOR MORE!"
         220  PRINT "JUST HIT THE RETURN KEY, AND SCHOOL"
         230  PRINT "WILL BE OUT"
         280  PRINT TAB(4);"HERE THEY COME!!!"
         330  A=INT(RND(0)*11)+1
         340  B=INT(RND(0)*(15-A))+4
         460  PRINT TAB(A-H-4);
```

```
630 PRINT TAB(A+H-4);
840 ON INT(RND(0)*6)+1 GOTO 850,870,890,910,910,910
```

TEXAS INSTRUMENTS 99/4A

Delete: `140`

Change:
```
110 PRINT "PEOPLE HAVE GEOMETRIC      FIGURES"
120 PRINT "WHILE YOU MIGHT THINK THEY LOOK"
130 PRINT "FUNNY, THEY THINK YOU LOOK JUST HILARIOUS."
160 PRINT "THE SHAPE KIDS ARE GETTING VERY"
190 PRINT "HOME TO THEIR TRIANGULAR   CATS AND"
200 PRINT "SQUARE DOGS.  YOU CAN GET   THEM OUT"
250 CALL SOUND (100,440,2)
330 A=INT(RND*26)+1
340 B=INT(RND*(20-A))+8
710 IF (B/2=4)+(B/2=5)+(B/2=6)+(B/2=7)+(B/2=8) THEN 330
720 IF (B/2=9)+(B/2=10)+(B/2=11) THEN 330
840 ON INT(RND*6)+1 GOTO 850,870,890,910,910,910
```

TRS-80 COLOR COMPUTER

Add:
```
405 PRINT
455 IF A-H-8<=0 THEN 510
495 PRINT
585 PRINT
625 IF A+H-8<=0 THEN 680
665 PRINT
775 PRINT
```

Change:
```
100 PRINT "ON THE PLANET OF THE SHAPES, THE ";
110 PRINT "PEOPLE HAVE GEOMETRIC FIGURES. ";
120 PRINT "WHILE YOU MIGHT THINK THEY LOOK ";
130 PRINT "FUNNY, THEY THINK YOU LOOK JUST ";
160 PRINT "THE SHAPE KIDS ARE GETTING VERY ";
170 PRINT "RESTLESS BECAUSE SCHOOL WILL BE ";
180 PRINT "OUT SOON AND THEY'LL GET TO GO ";
190 PRINT "HOME TO THEIR TRIANGULAR CATS AND ";
200 PRINT "SQUARE DOGS.  YOU CAN GET THEM OUT ";
210 PRINT "EARLY BY RINGING THE SCHOOL BELL. ";
220 PRINT "JUST HIT THE ENTER KEY, AND SCHOOL ";
250 SOUND 173,3
330 A=RND(30)
340 B=RND(30)
840 ON RND(6) GOTO 850,870,890,910,910,910
```

Asteroid Alert

You can't be too careful in the asteroid belt. Thousands of tiny planetoids can put dents in your spacecraft unless you're careful. But your ship is no match for the biggest ones. That's why every astronaut venturing into the asteroid zone must pass this test.

☐ Sample Run

```
THERE ARE MORE THAN 30,000
ASTEROIDS IN THE SOLAR SYSTEM.

EVEN THE SMALL ONES CAN PACK
A REAL WALLOP IF YOUR SPACESHIP
COLLIDES WITH ONE.  BUT ANY
SPACE TRAVELER HAD BETTER KNOW
ABOUT THE TEN BIGGEST ONES!

HIT THE ENTER KEY TO CONTINUE?

        1  ASTRAEA
        2  CERES
        3  FLORA
        4  HEBE
        5  HYGEIA
        6  IRIS
        7  JUNO
        8  METIS
        9  PALLAS
        10 VESTA

ONE OF THE ABOVE ASTEROIDS WAS
DISCOVERED IN 1848, HAS A
DIAMETER OF 78 MILES, AND
IS ROUGHLY 222 MILLION MILES
FROM THE SUN.

ENTER THE RIGHT NUMBER? 8

RIGHT!

ONE OF THE ABOVE ASTEROIDS WAS
DISCOVERED IN 1845, HAS A
DIAMETER OF 50 MILES, AND
IS ROUGHLY 239 MILLION MILES
FROM THE SUN.

ENTER THE RIGHT NUMBER? 1

RIGHT!
```

[There's more—when you get to the end of the program, you'll see something like this:]

```
ONE OF THE ABOVE ASTEROIDS WAS
DISCOVERED IN 1807, HAS A
DIAMETER OF 243 MILES, AND
IS ROUGHLY 219 MILLION MILES
FROM THE SUN.

ENTER THE RIGHT NUMBER? 10

RIGHT!


IT TOOK YOU 11 TRIES TO GET THEM ALL--
DO YOU WANT TO TRY AGAIN? NO
```

□ Program Listing

```
10  REM ASTEROID ALERT
100 PRINT "THERE ARE MORE THAN 30,000"
110 PRINT "ASTEROIDS IN THE SOLAR SYSTEM."
120 PRINT
130 PRINT "EVEN THE SMALL ONES CAN PACK"
140 PRINT "A REAL WALLOP IF YOUR SPACESHIP"
150 PRINT "COLLIDES WITH ONE.  BUT ANY"
160 PRINT "SPACE TRAVELER HAD BETTER KNOW"
170 PRINT "ABOUT THE TEN BIGGEST ONES!"
180 PRINT
190 PRINT "HIT THE ENTER KEY TO CONTINUE";
200 INPUT X$
210 PRINT
220 DIM F(10),L(10),D(10),N(10)
230 K=1
240 T=T+1
250 PRINT
260 GOSUB 680
270 PRINT
280 PRINT "ONE OF THE ABOVE ASTEROIDS WAS"
290 PRINT "DISCOVERED IN ";F(K);", HAS A"
300 PRINT "DIAMETER OF ";D(K);" MILES, AND"
310 PRINT "IS ROUGHLY ";L(K);" MILLION MILES"
320 PRINT "FROM THE SUN."
330 PRINT
340 PRINT "ENTER THE RIGHT NUMBER";
350 INPUT Q
360 IF Q<1 OR Q>10 THEN 340
370 IF Q<>N(K) THEN 450
380 PRINT
390 PRINT "RIGHT!"
```

```
400 PRINT
410 K=K+1
420 IF K=11 THEN 550
430 RESTORE
440 GOTO 240
450 RESTORE
460 PRINT
470 PRINT "SORRY--THE ANSWER IS NOT ";
480 FOR C=1 TO Q
490 READ A$
500 NEXT C
510 PRINT A$;"!"
520 PRINT
530 RESTORE
540 GOTO 240
550 PRINT
560 IF X=0 THEN 590
570 IF X<T THEN PRINT "YOU DID BETTER LAST TIME!"
580 IF X>T THEN PRINT "TERRIFIC!  YOU DID BETTER THAN
    BEFORE!"
590 PRINT "IT TOOK YOU ";T;" TRIES TO GET THEM ALL--"
600 PRINT "DO YOU WANT TO TRY AGAIN";
610 INPUT Y$
620 IF MID$(Y$,1,1)<>"N" THEN 640
630 END
640 X=T
650 RESTORE
660 GOTO 230
670 REM --- LOOKUP SUBROUTINES ---
680 FOR Z=1 TO 10
690 READ A$
700 PRINT TAB(5);Z;TAB(10);A$
710 NEXT Z
720 FOR B=1 TO 10
730 READ F(B),L(B),D(B),N(B)
740 NEXT B
750 RETURN
760 DATA ASTRAEA,CERES
770 DATA FLORA,HEBE,HYGEIA
780 DATA IRIS,JUNO,METIS
790 DATA PALLAS,VESTA
800 DATA 1848,222,78,8,1845,239,50,1,1849,293,40,5
810 DATA 1804,248,118,7,1847,204,56,3,1801,257,485,2
820 DATA 1847,225,121,4,1802,257,304,9,1847,221,121,6
830 DATA 1807,219,243,10
```

☐ If You Have . . .

APPLE II

Change: 190 PRINT "HIT THE RETURN KEY TO CONTINUE";

ATARI

Add: 95 DIM X$(1),A$(7),Y$(3)
735 F(B)=FB:L(B)=LB:D(B)=DB:N(B)=NB

Change: 190 PRINT "HIT THE RETURN KEY TO CONTINUE";
620 IF Y$(1,1)<>"N" THEN 640
700 PRINT "   ";Z;"   ";A$
730 READ FB,LB,DB,NB

COMMODORE 64

Change: 190 PRINT "HIT THE RETURN KEY TO CONTINUE"

COMMODORE VIC-20

Change: 190 PRINT "HIT THE RETURN KEY TO CONTINUE"
330 REM
340 PRINT "ENTER THE RIGHT NUMBER"
600 PRINT "DO YOU WANT TO TRY AGAIN"

TEXAS INSTRUMENTS 99/4A

Add: 572 PRINT "YOU DID BETTER LAST TIME!"
582 PRINT "TERRIFIC!   YOU DID BETTER   THAN BEFORE!"

Change: 110 PRINT "ASTEROIDS IN THE SOLAR   SYSTEM"
140 PRINT "A REAL WALLOP IF YOUR SPACE-SHIP"
160 PRINT "SPACE TRAVELER HAD BETTER   KNOW"
190 PRINT "HIT THE ENTER KEY TO   CONTINUE";
280 PRINT "ONE OF THE ABOVE ASTEROIDS WAS"
360 IF (Q<1)+(Q>10) THEN 340
570 IF X>=T THEN 580
580 IF X<=T THEN 590
620 IF SEG$(Y$,1,1)<>"N" THEN 640

TRS-80 COLOR COMPUTER

Delete: 220,250,270,330,520

Add: 95 DIM F(10),L(10),D(10),N(10)

Change: 440 GOTO 190
540 GOTO 190

Chinese Calendar Magic

Time is very important in outer space — and calendars are crucial.
Here on Earth, the Chinese use an unusual system to count their years.
Discover it by running this program.

☐ Sample Run

```
WHAT IS THE CURRENT YEAR? 1984

THE CHINESE CALENDAR WORKS IN 12-YEAR
CYCLES.  EVERY YEAR IS NAMED AFTER ONE
OF TWELVE DIFFERENT ANIMALS.

ENTER A YEAR, AND I'LL TELL YOU
WHICH ANIMAL IT'S NAMED FOR? 1776

IN THE CHINESE CALENDAR,
1776 WAS THE YEAR OF THE MONKEY.

WANT TO TRY ANOTHER YEAR? YES

ENTER A YEAR, AND I'LL TELL YOU
WHICH ANIMAL IT'S NAMED FOR? 1990

IN THE CHINESE CALENDAR,
1990 WILL BE THE YEAR OF THE HORSE.

WANT TO TRY ANOTHER YEAR? YES

ENTER A YEAR, AND I'LL TELL YOU
WHICH ANIMAL IT'S NAMED FOR? 1984

IN THE CHINESE CALENDAR,
1984 IS THE YEAR OF THE RAT.

WANT TO TRY ANOTHER YEAR? NO
```

☐ Program Listing

```
10 REM CHINESE CALENDAR MAGIC
100 PRINT "WHAT IS THE CURRENT YEAR";
110 INPUT C
120 IF C<1983 OR C>1990 THEN 100
130 PRINT
```

```
140 PRINT "THE CHINESE CALENDAR WORKS IN 12-YEAR"
150 PRINT "CYCLES.  EVERY YEAR IS NAMED AFTER ONE"
160 PRINT "OF TWELVE DIFFERENT ANIMALS."
170 PRINT
180 PRINT "ENTER A YEAR, AND I'LL TELL YOU"
190 PRINT "WHICH ANIMAL IT'S NAMED FOR";
200 INPUT Y
210 N=0
220 D=Y-1972
230 IF D<0 THEN N=1
240 D=ABS(D)
250 FOR A=1 TO D STEP 12
260 IF D>12 THEN D=D-12
270 NEXT A
280 IF N=1 THEN D=12-D
290 IF D=12 THEN D=0
300 FOR A=1 TO D+1
310 READ F$
320 NEXT A
330 PRINT
340 PRINT "IN THE CHINESE CALENDAR,"
350 IF Y<C THEN 410
360 IF Y=C THEN 390
370 PRINT Y;" WILL BE THE YEAR OF THE ";F$;"."
380 GOTO 420
390 PRINT Y;" IS THE YEAR OF THE ";F$;"."
400 GOTO 420
410 PRINT Y;" WAS THE YEAR OF THE ";F$;"."
420 PRINT
430 PRINT "WANT TO TRY ANOTHER YEAR";
440 INPUT Y$
450 IF MID$(Y$,1,1)="N" THEN END
460 PRINT
470 RESTORE
480 GOTO 180
490 DATA RAT,OX,TIGER,CAT,DRAGON,SNAKE
500 DATA HORSE,SHEEP,MONKEY,ROOSTER,DOG,PIG
```

☐ If You Have . . .

APPLE II   No Changes Required

ATARI

   Add: `95 DIM F$(7),Y$(3)`

Change: `450 IF Y$(1,1)="N" THEN END`

COMMODORE 64   No Changes Required

COMMODORE VIC-20

```
Change:  100 PRINT "WHAT IS THE CURRENT YEAR"
         190 PRINT "WHICH ANIMAL IT'S NAMED FOR"
         430 PRINT "WANT TO TRY ANOTHER YEAR"
```

TEXAS INSTRUMENTS 99/4A

```
Add:  232 N=1
      262 D=D-12
      282 D=12-D
      292 D=0
      525 END
```

```
Change:  120 IF (C<1983)+(C>1990) THEN 100
         140 PRINT "THE CHINESE CALENDAR WORKS  IN 12-YEAR"
         230 IF D>=0 THEN 240
         260 IF D<=12 THEN 270
         280 IF N<>1 THEN 290
         290 IF D<>12 THEN 300
         450 IF SEG$(Y$,1,1)="N" THEN 525
```

TRS-80 COLOR COMPUTER   No Changes Required

Giant Diamond Miner

It's not easy hunting for diamonds in space. Most of the time you find nothing but useless space rocks. But keep trying — you may just strike it rich!

☐ Sample Run

```
HOW MANY DIAMONDS DO YOU THINK YOU
ARE GOING TO FIND TODAY? 34512

YOU'VE INVESTED YOUR LIFE'S SAVINGS
IN A MINE ON URANUS THAT IS SUPPOSED
TO PRODUCE GIANT DIAMONDS.  YOU HAVE
TO DECIDE WHERE TO SEND YOUR MINERS.

WHICH SHAFT DO YOU WANT TO TRY (1-9)? 3

HIT THE ENTER KEY TO START THE CONVEYOR
BELT AND WE'LL SEE WHAT COMES OUT?

******* ****************************
***************** *****************
******** *************************
****************   *****************
*********  ************************
**********  ***********************
*** *********************************
********   ************************
********************   ************
************  ********************

TOO BAD!  NOTHING BUT MUDDY ICE...

MIGHT AS WELL TRY AGAIN.

WHICH SHAFT DO YOU WANT TO TRY (1-9)? 7

HIT THE ENTER KEY TO START THE CONVEYOR
BELT AND WE'LL SEE WHAT COMES OUT?

*****************  ****************
******* ******************************
**********************  ***********
**********************  ***********
*******************************    **
*******************  **************
**************   *****************
***********  ********************
************************   *******
************  ********************
```

```
TOO BAD!  NOTHING BUT PETRIFIED DONUTS...

MIGHT AS WELL TRY AGAIN.

WHICH SHAFT DO YOU WANT TO TRY (1-9)? 9

HIT THE ENTER KEY TO START THE CONVEYOR
BELT AND WE'LL SEE WHAT COMES OUT?

***     ******************************
*****      *****************************
*********     ************************
*************     ********************
*****************************  *******
***********************  *************
***********  ***********************
**************      ******************
************************   **********
*****************  *****************

TOO BAD!  NOTHING BUT OILY GRAVEL...

MIGHT AS WELL TRY AGAIN.

WHICH SHAFT DO YOU WANT TO TRY (1-9)? 5

HIT THE ENTER KEY TO START THE CONVEYOR
BELT AND WE'LL SEE WHAT COMES OUT?

HOLD ON--IT LOOKS PROMISING!!!!

******************  ******************
*****************  *****************
****************   *****************
***************    ***************
***************    ***************
****************   ***************
****************  ****************
*****************  *****************
******************  *****************
*****************  *****************
****************   ****************
***************    ***************
**************     **************
*************     *************
**************    **************
***************   ***************
****************  ****************
******************  ******************

Break
```

☐ Program Listing

```
10 REM GIANT DIAMOND MINER
100 PRINT
110 PRINT "HOW MANY DIAMONDS DO YOU THINK YOU"
120 PRINT "ARE GOING TO FIND TODAY";
130 INPUT R
140 RANDOMIZE R
150 PRINT CHR$(12)
160 PRINT "YOU'VE INVESTED YOUR LIFE'S SAVINGS"
170 PRINT "IN A MINE ON URANUS THAT IS SUPPOSED"
180 PRINT "TO PRODUCE GIANT DIAMONDS.  YOU HAVE"
190 PRINT "TO DECIDE WHERE TO SEND YOUR MINERS."
200 J=INT(RND(1)*9)+1
210 PRINT
220 PRINT "WHICH SHAFT DO YOU WANT TO TRY (1-9)";
230 INPUT X
240 IF X<1 OR X>9 THEN 220
250 PRINT
260 PRINT "HIT THE ENTER KEY TO START THE CONVEYOR"
270 PRINT "BELT AND WE'LL SEE WHAT COMES OUT";
280 INPUT K$
290 PRINT
300 IF X<>J THEN 630
310 PRINT
320 PRINT "HOLD ON--IT LOOKS PROMISING!!!!"
330 PRINT
340 A=INT(RND(1)*19)*2-1
350 IF A<3 THEN 340
360 FOR B=1 TO A STEP 2
370 SIDE=(40-B)/2
380 FOR L=1 TO SIDE
390 PRINT "*";
400 NEXT L
410 FOR M=1 TO B
420 PRINT " ";
430 NEXT M
440 FOR N=1 TO SIDE-1
450 PRINT "*";
460 NEXT N
470 PRINT "*"
480 NEXT B
490 FOR C=A TO 1 STEP -2
500 SIDE=(40-C)/2
510 FOR X=1 TO SIDE
520 PRINT "*";
530 NEXT X
540 FOR Y=1 TO C
550 PRINT " ";
560 NEXT Y
570 FOR Z=1 TO SIDE-1
580 PRINT "*";
590 NEXT Z
600 PRINT "*"
```

```
610 NEXT C
620 GOTO 340
630 FOR W=1 TO 17
640 P=(INT(RND(1)*32))+1
650 Q=(INT(RND(1)*4))+1
660 FOR V=1 TO P
670 PRINT "*";
680 NEXT V
690 FOR H=1 TO Q
700 PRINT CHR$(32);
710 NEXT H
720 FOR F=1 TO 38-(P+Q)
730 PRINT "*";
740 NEXT F
750 PRINT
760 NEXT W
770 PRINT
780 PRINT "TOO BAD!  NOTHING BUT ";
790 ON (RND(1)*5)+1 GOTO 800,820,840,860,880
800 PRINT "OILY GRAVEL..."
810 GOTO 890
820 PRINT "SPACE DIRT..."
830 GOTO 890
840 PRINT "MUDDY ICE..."
850 GOTO 890
860 PRINT "PETRIFIED DONUTS..."
870 GOTO 890
880 PRINT "BROKEN FOSSILS..."
890 PRINT
900 PRINT "MIGHT AS WELL TRY AGAIN."
910 GOTO 210
```

☐ If You Have . . .

APPLE II

Delete: 140

Change: 150 HOME
       260 PRINT "HIT THE RETURN KEY TO START THE CONVEYOR"

ATARI

Delete: 140

Add: 95 DIM K$(1)

Change: 150 PRINT CHR$(125)
       200 J=INT(RND(0)*9)+1
       260 PRINT "HIT THE RETURN KEY TO START THE CONVEYOR"
       340 A=INT(RND(0)*19)*2-1

```
370 SIDE=(38-B)/2
500 SIDE=(38-C)/2
640 P=(INT(RND(0)*32))+1
650 Q=(INT(RND(0)*4))+1
790 ON (RND(0)*5)+1 GOTO 800,820,840,860,880
```

COMMODORE 64

Delete: 140

Change:
```
150 PRINT CHR$(147)
200 J=INT(RND(0)*9)+1
260 PRINT "HIT THE RETURN KEY TO START THE CONVEYOR"
340 A=INT(RND(0)*19)*2-1
640 P=(INT(RND(0)*32))+1
650 Q=(INT(RND(0)*4))+1
790 ON (RND(0)*5)+1 GOTO 800,820,840,860,880
```

COMMODORE VIC-20

Delete: 140

Change:
```
120 PRINT "ARE GOING TO FIND TODAY"
150 PRINT CHR$(147)
200 J=INT(RND(0)*9)+1
220 PRINT "WHICH SHAFT DO YOU WANT TO TRY (1-9)"
260 PRINT "HIT THE RETURN KEY TO START THE CONVEYOR"
270 PRINT "BELT AND WE'LL SEE WHAT COMES OUT"
340 A=INT(RND(0)*9)*2-1
370 SIDE=(22-B)/2
500 SIDE=(22-C)/2
640 P=(INT(RND(0)*16))+1
650 Q=(INT(RND(0)*4))+1
720 FOR F=1 TO 19-(P+Q)
790 ON (RND(0)*5)+1 GOTO 800,820,840,860,880
```

TEXAS INSTRUMENTS 99/4A

Change:
```
110 PRINT "HOW MANY DIAMONDS DO YOU     THINK YOU"
140 RANDOMIZE
150 CALL CLEAR
200 J=INT(RND*9)+1
220 PRINT "WHICH SHAFT DO YOU WANT TO  TRY (1-9)";
240 IF (X<1)+(X>9) THEN 220
260 PRINT "HIT THE ENTER KEY TO START  THE CONVEYOR"
270 PRINT "BELT AND WE'LL SEE WHAT     COMES OUT";
340 A=INT(RND*14)*2-1
370 SIDE=(28-B)/2
500 SIDE=(28-C)/2
640 P=INT(RND*24)+1
650 Q=INT(RND*4)+1
```

(continued)

```
720 FOR F=1 TO 26-(P+Q)
790 ON (RND*5)+1 GOTO 800,820,840,860,880
```

TRS-80 COLOR COMPUTER

Delete: 140

Change:
```
150 CLS
200 J=RND(9)
340 A=RND(14)*2-1
370 SIDE=(32-B)/2
500 SIDE=(32-C)/2
640 P=RND(26)
650 Q=RND(4)
720 FOR F=1 TO 31-(P+Q)
790 ON RND(5) GOTO 800,820,840,860,880
```

Visit to a Backward Planet

You've just sighted the planet Sdrawkcab. Its citizens are friendly — but they're slightly different from us humans. When you run this program, you'll be in computer contact with them!

☐ Sample Run

```
ON THE PLANET SDRAWKCAB, PEOPLE
DO SOME THINGS DIFFERENTLY FROM WHAT
WE'RE USED TO.  HIT THE ENTER KEY TO
PUT YOUR COMPUTER INTO CONTACT WITH
ONE OF ITS CITIZENS?


WELCOME TO THE PLANET SDRAWKCAB!


WHAT'S YOUR NAME, STRANGER? HENRY JAMES

THAT'S FUNNY--MINE IS SEMAJ YRNEH.


WHAT COUNTRY DO YOU COME FROM? CANADA

REALLY?  MY COUNTRY IS ADANAC.


WHAT CITY DO YOU LIVE IN? ROME

INTERESTING...I LIVE IN EMOR.


WHAT IS YOUR STREET ADDRESS? 324 PARADISE STREET

GEE, I LIVE AT TEERTS ESIDARAP 423.


HENRY JAMES, TYPE IN HOW YOU COUNT TO 9? 123456789

WELL, WE COUNT TO 9 LIKE THIS:  9.
BUT HERE'S HOW WE COUNT ALL THE WAY
UP TO 1: 987654321


WHAT'S YOUR BEST FRIEND'S NAME? WALDO EMERSON

NEAT! MY BEST FRIEND HERE IS NOSREME ODLAW.
```

WHAT COMPUTER ARE YOU USING? FERN III

WELL, HENRY JAMES, I'M USING MY III NREF.

WHAT'S YOUR FAVORITE FOOD? SNAILS

SNAILS??   YUCK!   I LOVE SLIANS.

SORRY, HENRY JAMES, I'VE GOT TO GO.

WHAT DO YOU SAY WHEN YOU LEAVE? TA-TA

AT-AT, HENRY JAMES!
Ok

☐ Program Listing

```
10 REM VISIT TO A BACKWARD PLANET
100 PRINT "ON THE PLANET SDRAWKCAB, PEOPLE"
110 PRINT "DO SOME THINGS DIFFERENTLY FROM WHAT"
120 PRINT "WE'RE USED TO.  HIT THE ENTER KEY TO"
130 PRINT "PUT YOUR COMPUTER INTO CONTACT WITH"
140 PRINT "ONE OF ITS CITIZENS";
150 INPUT X$
160 GOSUB 940
170 PRINT "WELCOME TO THE PLANET SDRAWKCAB!"
180 GOSUB 940
190 PRINT "WHAT'S YOUR NAME, STRANGER";
200 INPUT NAM$
210 IF NAM$="" THEN 190
220 PRINT
230 A$=NAM$
240 GOSUB 880
250 PRINT "THAT'S FUNNY--MINE IS ";B$;"."
260 GOSUB 940
270 PRINT "WHAT COUNTRY DO YOU COME FROM";
280 INPUT A$
290 IF A$="" THEN 270
300 PRINT
310 GOSUB 880
320 PRINT "REALLY?  MY COUNTRY IS ";B$;"."
330 GOSUB 940
340 PRINT "WHAT CITY DO YOU LIVE IN";
350 INPUT A$
360 IF A$="" THEN 340
370 PRINT
380 GOSUB 880
390 PRINT "INTERESTING...I LIVE IN ";B$;"."
400 GOSUB 940
```

74

```
410 PRINT "WHAT IS YOUR STREET ADDRESS";
420 INPUT A$
430 IF A$="" THEN 410
440 PRINT
450 GOSUB 880
460 PRINT "GEE, I LIVE AT ";B$;"."
470 GOSUB 940
480 PRINT NAM$;", TYPE IN HOW YOU COUNT TO 9";
490 INPUT A$
500 IF A$="" THEN 480
510 PRINT
520 GOSUB 880
530 PRINT "WELL, WE COUNT TO 9 LIKE THIS:   9."
540 PRINT "BUT HERE'S HOW WE COUNT ALL THE WAY"
550 PRINT "UP TO 1: ";B$
560 GOSUB 940
570 PRINT "WHAT'S YOUR BEST FRIEND'S NAME";
580 INPUT A$
590 IF A$="" THEN 570
600 PRINT
610 GOSUB 880
620 PRINT "NEAT! MY BEST FRIEND HERE IS ";B$;"."
630 GOSUB 940
640 PRINT "WHAT COMPUTER ARE YOU USING";
650 INPUT A$
660 IF A$="" THEN 640
670 PRINT
680 GOSUB 880
690 PRINT "WELL, ";NAM$;", I'M USING MY ";B$;"."
700 GOSUB 940
710 PRINT "WHAT'S YOUR FAVORITE FOOD";
720 INPUT A$
730 IF A$="" THEN 710
740 PRINT
750 GOSUB 880
760 PRINT A$;"??   YUCK!   I LOVE ";B$;"."
770 GOSUB 940
780 PRINT "SORRY, ";NAM$;", I'VE GOT TO GO."
790 PRINT
800 PRINT "WHAT DO YOU SAY WHEN YOU LEAVE";
810 INPUT A$
820 IF A$="" THEN 800
830 GOSUB 880
840 GOSUB 940
850 PRINT B$;", ";NAM$;"!"
860 END
870 REM --- BACKWARDS SUBROUTINE ---
880 B$=""
890 FOR A=LEN(A$) TO 1 STEP -1
900 B$=B$+MID$(A$,A,1)
910 NEXT A
920 RETURN
930 REM --- SPACING SUBROUTINE ---
940 FOR S=1 TO 5
950 PRINT
960 NEXT S
970 RETURN
```

□ If You Have . . .

APPLE II

Change: `120 PRINT "WE'RE USED TO.  HIT THE RETURN KEY TO"`

ATARI

Add: `95 DIM X$(1),NAM$(40),A$(40),B$(40)`

Change: `120 PRINT "WE'RE USED TO.  HIT THE RETURN KEY TO"`
`900 B$(LEN(A$)+1-A)=A$(A,A)`

COMMODORE 64

Change: `120 PRINT "WE'RE USED TO.  HIT THE RETURN KEY TO"`

COMMODORE VIC-20

Change:
```
120 PRINT "WE'RE USED TO.  HIT THE RETURN KEY TO"
140 PRINT "ONE OF ITS CITIZENS"
190 PRINT "WHAT'S YOUR NAME, STRANGER "
270 PRINT "WHAT COUNTRY DO YOU COME FROM"
340 PRINT "WHAT CITY DO YOU LIVE IN"
410 PRINT "WHAT IS YOUR STREET ADDRESS"
480 PRINT NAM$;", TYPE IN HOW YOU COUNT TO 9"
570 PRINT "WHAT'S YOUR BEST FRIEND'S NAME"
640 PRINT "WHAT COMPUTER ARE YOU USING"
710 PRINT "WHAT'S YOUR FAVORITE FOOD"
800 PRINT "WHAT DO YOU SAY WHEN YOU LEAVE"
```

TEXAS INSTRUMENTS 99/4A

Change: `900 B$=B$&SEG$(A$,A,1)`

TRS-80 COLOR COMPUTER   No Changes Required

Measurement Madness

You probably know how tall you are in inches — but has anybody ever measured how many picas you are? The unusual measurements in this program come from Earth — but some of them do seem a bit unearthly!

☐ Sample Run

```
IN SPACE, ODD THINGS HAPPEN TO THE
MEASUREMENTS WE'RE FAMILIAR WITH.
YOU CAN WEIGH DIFFERENT AMOUNTS ON
DIFFERENT PLANETS.  EVEN YOUR HEIGHT
CAN VARY WHEN YOU TRAVEL NEAR THE
SPEED OF LIGHT.

WE'RE ALL USED TO CERTAIN WEIGHTS
AND MEASURES, SUCH AS INCHES, POUNDS,
AND GALLONS.  THIS PROGRAM WILL SHOW
YOU SOME OF THE MORE UNUSUAL ONES.

     1    INCHES
     2    QUARTS
     3    POUNDS

SELECT ONE CATEGORY? 1

HOW MANY INCHES TALL ARE YOU? 47

IF YOU ARE 47 INCHES TALL, YOU ARE

     2.611111 CUBITS TALL
     1.044444 ENGLISH ELLS TALL
     11.75 HANDS TALL
     282 PICAS TALL
     3384 POINTS TALL
     5.222223 SPANS TALL
     5.934344 LINKS TALL

WANT TO TRY SOME MORE? YES

     1    INCHES
     2    QUARTS
     3    POUNDS

SELECT ONE CATEGORY? 2

HOW MANY QUARTS DO YOU THINK YOU CAN
DRINK IN ONE WHOLE YEAR? 543

IF YOU CAN DRINK 543 QUARTS, THEN
YOU CAN ALSO SWALLOW
```

(continued)

```
      4344 GILLS
      4.309524 BARRELS
      8.619047 HOGSHEADS
      17.23809 PIPES
      .5386905 TUNS
      271.5 MAGNUMS

WANT TO TRY SOME MORE? NO
```

☐ Program Listing

```
10 REM MEASUREMENT MADNESS
100 PRINT "IN SPACE, ODD THINGS HAPPEN TO THE"
110 PRINT "MEASUREMENTS WE'RE FAMILIAR WITH."
120 PRINT "YOU CAN WEIGH DIFFERENT AMOUNTS ON"
130 PRINT "DIFFERENT PLANETS.  EVEN YOUR HEIGHT"
140 PRINT "CAN VARY WHEN YOU TRAVEL NEAR THE"
150 PRINT "SPEED OF LIGHT."
160 PRINT
170 PRINT "WE'RE ALL USED TO CERTAIN WEIGHTS"
180 PRINT "AND MEASURES, SUCH AS INCHES, POUNDS,"
190 PRINT "AND GALLONS.  THIS PROGRAM WILL SHOW"
200 PRINT "YOU SOME OF THE MORE UNUSUAL ONES."
210 PRINT
220 PRINT TAB(5);"1";TAB(10);"INCHES"
230 PRINT TAB(5);"2";TAB(10);"QUARTS"
240 PRINT TAB(5);"3";TAB(10);"POUNDS"
250 PRINT
260 PRINT "SELECT ONE CATEGORY";
270 INPUT C
280 ON C GOTO 300,450,610
290 GOTO 260
300 PRINT
310 PRINT "HOW MANY INCHES TALL ARE YOU";
320 INPUT T
330 IF T<1 OR T>80 THEN 310
340 PRINT
350 PRINT "IF YOU ARE ";T;" INCHES TALL, YOU ARE"
360 PRINT
370 PRINT TAB(5);T/18;" CUBITS TALL"
380 PRINT TAB(5);T/45;" ENGLISH ELLS TALL"
390 PRINT TAB(5);T/4;" HANDS TALL"
400 PRINT TAB(5);T*6;" PICAS TALL"
410 PRINT TAB(5);T*72;" POINTS TALL"
420 PRINT TAB(5);T/9;" SPANS TALL"
430 PRINT TAB(5);T/7.92;" LINKS TALL"
440 GOTO 730
450 PRINT
460 PRINT "HOW MANY QUARTS DO YOU THINK YOU CAN"
470 PRINT "DRINK IN ONE WHOLE YEAR";
```

```
480 INPUT Q
490 IF Q<1 THEN 460
500 PRINT
510 PRINT "IF YOU CAN DRINK ";Q;" QUARTS, THEN"
520 PRINT "YOU CAN ALSO SWALLOW "
530 PRINT
540 PRINT TAB(5);Q*8;" GILLS"
550 PRINT TAB(5);Q/126;" BARRELS"
560 PRINT TAB(5);Q/63;" HOGSHEADS"
570 PRINT TAB(5);Q/31.5;" PIPES"
580 PRINT TAB(5);Q/1008;" TUNS"
590 PRINT TAB(5);Q/2;" MAGNUMS"
600 GOTO 730
610 PRINT
620 PRINT "HOW MANY POUNDS DO YOU WEIGH";
630 INPUT P
640 IF P<1 THEN 620
650 PRINT
660 PRINT "IF YOU WEIGH ";P;" POUNDS, THEN YOU"
670 PRINT "ALSO WEIGH"
680 PRINT
690 PRINT TAB(5);P/14;" STONE"
700 PRINT TAB(5);P/220.46;" QUINTAL"
710 PRINT TAB(5);P*256;" DRAMS"
720 PRINT TAB(5);P*7000;" GRAINS"
730 PRINT
740 PRINT "WANT TO TRY SOME MORE";
750 INPUT Y$
760 IF MID$(Y$,1,1)<>"N" THEN 210
```

☐ If You Have . . .

APPLE II   No Changes Required

ATARI

```
Add: 95 DIM Y$(3)
     765 END
     775 FOR AA=1 TO IDX
     785 PRINT " ";:NEXT AA:RETURN


Change: 220 IDX=4:GOSUB 775:PRINT "1";:GOSUB 775:PRINT
            "INCHES"
        230 GOSUB 775:PRINT "2";:GOSUB 775:PRINT "QUARTS"
        240 GOSUB 775:PRINT "3";:GOSUB 775:PRINT "POUNDS"
        370 IDX=4:GOSUB 775:PRINT T/18;" CUBITS TALL"
        380 GOSUB 775:PRINT T/45;" ENGLISH ELLS TALL"
        390 GOSUB 775:PRINT T/4;" HANDS TALL"
```

```
400 GOSUB 775:PRINT T*6;" PICAS TALL"
410 GOSUB 775:PRINT T*72;" POINTS TALL"
420 GOSUB 775:PRINT T/9;" SPANS TALL"
430 GOSUB 775:PRINT T/7.92;" LINKS TALL"
540 IDX=4:GOSUB 775:PRINT Q*8;" GILLS"
550 GOSUB 775:PRINT Q/126;" BARRELS"
560 GOSUB 775:PRINT Q/63;" HOGSHEADS"
570 GOSUB 775:PRINT Q/31.5;" PIPES"
580 GOSUB 775:PRINT Q/1008;" TUNS"
590 GOSUB 775:PRINT Q/2;" MAGNUMS"
690 IDX=4:GOSUB 775:PRINT P/14;" STONE"
700 GOSUB 775:PRINT P/220.46;" QUINTAL"
710 GOSUB 775:PRINT P*256;" DRAMS"
720 GOSUB 775:PRINT P*7000;" GRAINS"
760 IF Y$(1,1)<>"N" THEN 210
```

COMMODORE 64   No Changes Required

COMMODORE VIC-20

Add: 165 PRINT "HIT RETURN KEY FOR MORE!"
       167 INPUT MOR$

Change: 260 PRINT "SELECT ONE CATEGORY"
        310 PRINT "HOW MANY INCHES TALL ARE YOU"
        470 PRINT "DRINK IN ONE WHOLE YEAR"
        620 PRINT "HOW MANY POUNDS DO YOU WEIGH"
        740 PRINT "WANT TO TRY SOME MORE"

TEXAS INSTRUMENTS 99/4A

Delete: 160

Add: 195 PRINT "GALLONS. THIS PROGRAM WILL"

Change: 170 PRINT "WE'RE ALL USED TO CERTAIN"
        180 PRINT "WEIGHTS AND MEASURES, SUCH"
        190 PRINT "AS INCHES, POUNDS, AND"
        200 PRINT "SHOW YOU SOME OF THE MORE UNUSUAL ONES."
        330 IF (T<1)+(T>80) THEN 310
        760 IF SEG$(Y$,1,1)<>"N" THEN 210

TRS-80 COLOR COMPUTER

Add: 95 CLS
        165 INPUT " (PRESS ENTER FOR MORE) ";Y$
        168 CLS

Space Hero

You did it! You saved your hometown from enemy aliens! And you did it with your wits, without firing a single laser bolt! Type this program in, and you can read all about it, hero!

☐ Sample Run

```
WHAT'S YOUR FIRST NAME? JOSHUA
WHAT'S YOUR LAST NAME? TREE
ENTER YOUR CITY? MEMPHIS
ENTER YOUR STATE? EGYPT
WHAT KIND OF COMPUTER DO YOU HAVE? ABACUS-64
WHAT'S THE FIRST NAME OF
ONE OF YOUR PARENTS? BEAVER
ENTER A FRIEND'S NAME? EDDIE HASKELL
ENTER AN ENEMY'S NAME? TINKERBELL
WHAT SCHOOL DO YOU ATTEND? ETONIA JUNIOR HIGH
WHO IS YOUR FAVORITE TEACHER? MR. BLISTER


          EXTRA!  EXTRA!
-------------------------------------
          THE EGYPT GAZETTE
-------------------------------------
          JOSHUA SAVES MEMPHIS

MEMPHIS--FLASH! JOSHUA TREE HAS
SAVED THE CITY FROM A HORRIBLE FATE.
THIS MORNING, EVIL ALIENS FROM A FAR-
OFF PLANET SECRETLY INVADED EGYPT.
JOSHUA WAS COMING HOME FROM ETONIA JUNIOR
HIGH SCHOOL WHEN ONE OF THE HORRIBLE
CREATURES ENTERED THE TREE HOME.

THE ALIEN INSISTED THAT NO ONE ON EARTH
COULD PERFORM COMPLICATED CALCULATIONS
THAT COULD MATCH THEIR OWN. BUT TREE
SWITCHED ON AN ABACUS-64 COMPUTER AND
SHOWED THE TERRIFYING CREATURE SOME
OF THE ASTONISHING THINGS THE MACHINE
COULD DO.


(HIT THE ENTER KEY FOR PAGE 2)?


JUST AS TWO OF THESE EVIL ALIENS WERE
ABOUT TO EAT BEAVER TREE FOR DINNER,
JOSHUA SOLVED A TOUGH MATH PROBLEM
ONE OF THE ALIENS HAD GIVEN JOSHUA
AS A TEST.  THE ALIENS THEN FLED
```

(continued)

IN TERROR. THEY RELEASED THE
TREES, ALONG WITH EDDIE HASKELL, ONE OF
JOSHUA'S CLOSE FRIENDS.

JOSHUA'S TEACHER, MR. BLISTER, PRAISED
TREE'S ACTIONS, AND NOTED THAT THE
ONLY ONE THE ALIENS HAD MANAGED
TO EAT WAS TINKERBELL.

☐ Program Listing

```
10 REM SPACE HERO
100 PRINT "WHAT'S YOUR FIRST NAME";
110 INPUT F$
120 IF F$="" THEN 100
130 PRINT "WHAT'S YOUR LAST NAME";
140 INPUT L$
150 IF L$="" THEN 130
160 PRINT "ENTER YOUR CITY";
170 INPUT C$
180 IF C$="" THEN 160
190 PRINT "ENTER YOUR STATE";
200 INPUT S$
210 IF S$="" THEN 190
220 PRINT "WHAT KIND OF COMPUTER DO YOU HAVE";
230 INPUT M$
240 IF M$="" THEN 220
250 PRINT "WHAT'S THE FIRST NAME OF"
260 PRINT "ONE OF YOUR PARENTS";
270 INPUT P$
280 IF P$="" THEN 250
290 PRINT "ENTER A FRIEND'S NAME";
300 INPUT B$
310 IF B$="" THEN 290
320 PRINT "ENTER AN ENEMY'S NAME";
330 INPUT E$
340 IF E$="" THEN 320
350 PRINT "WHAT SCHOOL DO YOU ATTEND";
360 INPUT Z$
370 IF Z$="" THEN 350
380 PRINT "WHO IS YOUR FAVORITE TEACHER";
390 INPUT T$
400 IF T$="" THEN 380
410 FOR A=1 TO 24
420 PRINT
430 NEXT A
440 A$="EXTRA!   EXTRA!"
450 GOSUB 990
460 GOSUB 920
470 A$="THE "+S$+" GAZETTE"
480 GOSUB 990
490 GOSUB 920
```

```
500 A$=F$+" SAVES "+C$
510 GOSUB 990
520 PRINT
530 PRINT C$;"--FLASH! ";F$;" ";L$;" HAS"
540 PRINT "SAVED THE CITY FROM A HORRIBLE FATE."
550 PRINT "THIS MORNING, EVIL ALIENS FROM A FAR-"
560 PRINT "OFF PLANET SECRETLY INVADED ";S$;"."
570 PRINT F$;" WAS COMING HOME FROM ";Z$
580 PRINT "SCHOOL WHEN ONE OF THE HORRIBLE"
590 PRINT "CREATURES ENTERED THE ";L$;" HOME."
600 PRINT
610 PRINT "THE ALIEN INSISTED THAT NO ONE ON EARTH"
620 PRINT "COULD PERFORM COMPLICATED CALCULATIONS"
630 PRINT "THAT COULD MATCH THEIR OWN. BUT ";L$
640 PRINT "SWITCHED ON A ";M$;" COMPUTER AND"
650 PRINT "SHOWED THE TERRIFYING CREATURE SOME"
660 PRINT "OF THE ASTONISHING THINGS THE MACHINE"
670 PRINT "COULD DO. "
680 PRINT
690 PRINT "(HIT THE ENTER KEY FOR PAGE 2)";
700 INPUT X$
710 PRINT
720 PRINT
730 PRINT
740 PRINT "JUST AS TWO OF THESE EVIL ALIENS WERE"
750 PRINT "ABOUT TO EAT ";P$;" ";L$;" FOR DINNER,"
760 PRINT F$;" SOLVED A TOUGH MATH PROBLEM"
770 PRINT "ONE OF THE ALIENS HAD GIVEN ";F$
780 PRINT "AS A TEST.  THE ALIENS THEN FLED"
790 PRINT "IN TERROR.  THEY RELEASED THE"
800 PRINT L$;
810 IF MID$(L$,LEN(L$),1)="S" THEN PRINT "E";
820 PRINT "S, ALONG WITH ";B$;", ONE OF"
830 PRINT F$;"'S CLOSE FRIENDS."
840 PRINT
850 PRINT F$;"'S TEACHER, ";T$;", PRAISED"
860 PRINT L$;"'S ACTIONS, AND NOTED THAT THE"
870 PRINT "ONLY ONE THE ALIENS HAD MANAGED"
880 PRINT "TO EAT WAS ";E$;"."
890 PRINT
900 END
910 REM --- LINE DRAWING SUBROUTINE ---
920 FOR Z=1 TO 38
930 PRINT "-";
940 NEXT Z
950 PRINT
960 RETURN
970 RETURN
980 REM --- CENTERING SUBROUTINE ---
990 K=19-LEN(A$)/2
1000 PRINT TAB(K);A$
1010 RETURN
1020 PRINT
```

☐ If You Have . . .

APPLE II

Change: 690 PRINT "(HIT THE RETURN KEY FOR PAGE 2)";

ATARI

```
Add:   91 DIM F$(20),L$(20),C$(40),S$(14),M$(40),P$(20)
       92 DIM B$(40),E$(40),Z$(40),T$(40),A$(30),X$(1)
       445 L=LEN(A$)
       455 PRINT
       475 L=LEN(A$)+LEN(S$)+8
       485 PRINT S$;" GAZETTE"
       505 L=LEN(F$)+LEN(C$)+7
       515 PRINT " SAVES ";C$
       995 GOSUB 1035
       1035 FOR AA=1 TO K
       1045 PRINT " ";:NEXT AA:RETURN

Change: 470 A$="THE "
        500 A$=F$
        690 PRINT "(HIT THE RETURN KEY FOR PAGE 2)";
        810 IF L$(LEN(L$),LEN(L$))="S" THEN PRINT "E";
        920 FOR Z=1 TO 36
        990 K=19-L/2
        1000 PRINT A$;
```

COMMODORE 64

Change: 690 PRINT "(HIT THE RETURN KEY FOR PAGE 2)";

COMMODORE VIC-20

Delete: 600,690,700,710,720,840,890

```
Add:   605 PRINT "(HIT RETURN KEY FOR PAGE 2)"
       606 INPUT X$
       607 PRINT
       754 PRINT "(HIT RETURN KEY FOR PAGE 3)"
       755 INPUT X$
       756 PRINT

Change: 100 PRINT "WHAT'S YOUR FIRST NAME"
        130 PRINT "WHAT'S YOUR LAST NAME"
        160 PRINT "ENTER YOUR CITY"
        190 PRINT "ENTER YOUR STATE"
        220 PRINT "WHAT KIND OF COMPUTER DO YOU HAVE"
        260 PRINT "ONE OF YOUR PARENTS"
        290 PRINT "ENTER A FRIEND'S NAME"
        320 PRINT "ENTER AN ENEMY'S NAME"
```

84

```
350 PRINT "WHAT SCHOOL DO YOU ATTEND"
380 PRINT "WHO IS YOUR FAVORITE TEACHER"
920 FOR Z=1 TO 21
990 K=11-LEN(A$)/2
```

TEXAS INSTRUMENTS 99/4A

Add:
```
595 PRINT "HIT THE ENTER KEY FOR PAGE 2"
596 INPUT X$
815 PRINT "E";
835 PRINT "HIT THE ENTER KEY FOR PAGE 4"
836 INPUT X$
```

Change:
```
470 A$="THE "&S$&" GAZETTE"
500 A$=F$&" SAVES "&C$
690 PRINT "HIT THE ENTER KEY FOR PAGE 3"
810 IF SEG$(L$,LEN(L$),1)<>"S" THEN 810
920 FOR Z=1 TO 28
990 K=14-LEN(A$)/2
```

TRS-80 COLOR COMPUTER

Delete:
```
680,690,700,720,730
```

Add:
```
525 GOSUB 1105
595 GOSUB 1105
700 GOSUB 1105
835 GOSUB 1105
1105 REM -- NEXT SCREEN ROUTINE --
1115 PRINT
1125 PRINT "(PRESS ENTER FOR THE NEXT PAGE)";
1135 INPUT X$
1145 CLS
1155 RETURN
```

Change:
```
920 FOR Z=1 TO 32
990 K=16-LEN(A$)/2
```

Pyramid Planet Explorer

When you're searching for distant life forms, it pays to be patient.
Most of the time you'll find dry, dusty planets.
But now and then you'll make discoveries that will astound you.

☐ Sample Run

```
WHAT'S YOUR FIRST INITIAL? W
WHAT'S YOUR LAST INITIAL? B

YOU'RE AN EXPLORER WHO IS FAMOUS
ALL ACROSS THE UNIVERSE FOR YOUR
DISCOVERIES.  FOR YEARS YOU HAVE
HEARD OF A MYSTERIOUS PLANET IN
A FAR-OFF GALAXY WHERE AN ANCIENT
CIVILIZATION BUILT A LONG STRING
OF GIANT PYRAMIDS, EACH WITH ITS
OWN REFLECTING POOL.  IT WOULD BE
YOUR GREATEST DISCOVERY IF YOU
LOCATED THESE.

THERE ARE TEN PLANETS IN THIS
SYSTEM.  ENTER WHICH ONE YOU WANT
TO CHECK (FROM 1 TO 10)? 3

===================================

NO, PLANET #3 IS TOO GREASY
TO SUPPORT LIFE.  TRY AGAIN

===================================

THERE ARE TEN PLANETS IN THIS
SYSTEM.  ENTER WHICH ONE YOU WANT
TO CHECK (FROM 1 TO 10)? 8

===================================

NO, PLANET #8 IS TOO SMELLY
TO SUPPORT LIFE.  TRY AGAIN

===================================

THERE ARE TEN PLANETS IN THIS
SYSTEM.  ENTER WHICH ONE YOU WANT
TO CHECK (FROM 1 TO 10)? 2

===================================
```

NO, PLANET #1 IS TOO DIRTY
TO SUPPORT LIFE. TRY AGAIN

====================================

THERE ARE TEN PLANETS IN THIS
SYSTEM. ENTER WHICH ONE YOU WANT
TO CHECK (FROM 1 TO 10)? 7

YES...IT TOOK YOU 5 TRIES, BUT
YOUR SENSORS INDICATE THIS COULD BE
THE ONE. HIT THE ENTER KEY TO TURN
YOUR VIEWING SCREEN ON?

```
                 W
                WWW
               WWWWW
              WWWWWWW
             WWWWWWWWW
            WWWWWWWWWWW
           WWWWWWWWWWWWW
          WWWWWWWWWWWWWWW
         WWWWWWWWWWWWWWWWW
        WWWWWWWWWWWWWWWWWWW
        BBBBBBBBBBBBBBBBBBB
         BBBBBBBBBBBBBBBBB
          BBBBBBBBBBBBBBB
           BBBBBBBBBBBBB
            BBBBBBBBBBB
             BBBBBBBBB
              BBBBBBB
               BBBBB
                BBB
                 B
                 W
                WWW
               WWWWW
              WWWWWWW
             WWWWWWWWW
            WWWWWWWWWWW
           WWWWWWWWWWWWW
          WWWWWWWWWWWWWWW
         WWWWWWWWWWWWWWWWW
        WWWWWWWWWWWWWWWWWWW
        BBBBBBBBBBBBBBBBBBB
         BBBBBBBBBBBBBBBBB
          BBBBBBBBBBBBBBB
           BBBBBBBBBBBBB
            BBBBBBBBBBB
             BBBBBBBBB
              BBBBBBB
               BBBBB
                BBB
                 B
```

```
            W
           WWW
          WWWWW
          BBBBB
           BBB
            B
            W
           WWW
          WWWWW
         WWWWWWW
        WWWWWWWWW
       WWWWWWWWWWW
      WWWWWWWWWWWWW
     WWWWWWWWWWWWWWW
    WWWWWWWWWWWWWWWWW
   WWWWWWWWWWWWWWWWWWW
   BBBBBBBBBBBBBBBBBBB
    BBBBBBBBBBBBBBBBB
     BBBBBBBBBBBBBBB
      BBBBBBBBBBBBB
       BBBBBBBBBBB
        BBBBBBBBB
         BBBBBBB
          BBBBB
           BBB
            B
            W
           WWW
          WWWWW
         WWWWWWW
        WWWWWWWWW
       WWWWWWWWWWW
      WWWWWWWWWWWWW
     WWWWWWWWWWWWWWW
    WWWWWWWWWWWWWWWWW
   WWWWWWWWWWWWWWWWWWW
  WWWWWWWWWWWWWWWWWWWWW
 WWWWWWWWWWWWWWWWWWWWWWW
WWWWWWWWWWWWWWWWWWWWWWWWW
BBBBBBBBBBBBBBBBBBBBBBBBB
 BBBBBBBBBBBBBBBBBBBBBBB
  BBBBBBBBBBBBBBBBBBBBB
   BBBBBBBBBBBBBBBBBBB
    BBBBBBBBBBBBBBBBB
     BBBBBBBBBBBBBBB
      BBBBBBBBBBBBB
       BBBBBBBBBBB
        BBBBBBBBB
         BBBBBBB
          BBBBB
           BBB
            B
```

Break

☐ Program Listing

```
10 REM PYRAMID PLANET EXPLORER
100 M=0
110 PRINT "WHAT'S YOUR FIRST INITIAL";
120 INPUT FI$
130 IF FI$="" THEN 110
140 IF LEN(FI$)>1 THEN FI$=MID$(FI$,1,1)
150 PRINT "WHAT'S YOUR LAST INITIAL";
160 INPUT LI$
170 IF LI$="" THEN 150
180 IF LEN(LI$)>1 THEN LI$=MID$(LI$,1,1)
190 RANDOMIZE ASC(FI$)*ASC(LI$)
200 Y=INT(RND(1)*10)+1
210 PRINT
220 PRINT "YOU'RE AN EXPLORER WHO IS FAMOUS"
230 PRINT "ALL ACROSS THE UNIVERSE FOR YOUR"
240 PRINT "DISCOVERIES.  FOR YEARS YOU HAVE"
250 PRINT "HEARD OF A MYSTERIOUS PLANET IN"
260 PRINT "A FAR-OFF GALAXY WHERE AN ANCIENT"
270 PRINT "CIVILIZATION BUILT A LONG STRING"
280 PRINT "OF GIANT PYRAMIDS, EACH WITH ITS"
290 PRINT "OWN REFLECTING POOL.  IT WOULD BE"
300 PRINT "YOUR GREATEST DISCOVERY IF YOU"
310 PRINT "LOCATED THESE."
320 PRINT
330 PRINT "THERE ARE TEN PLANETS IN THIS"
340 PRINT "SYSTEM.  ENTER WHICH ONE YOU WANT"
350 PRINT "TO CHECK (FROM 1 TO 10)";
360 INPUT G
370 IF G<1 OR G>10 THEN 330
380 IF G=Y THEN 460
390 GOSUB 770
400 GOSUB 690
410 PRINT "NO, PLANET # ";G;" IS TOO ";W$
420 PRINT "TO SUPPORT LIFE.  TRY AGAIN."
430 M=M+1
440 GOSUB 690
450 GOTO 320
460 PRINT
470 IF M=0 THEN 490
480 PRINT "YES...IT TOOK YOU ";M+1;" TRIES, BUT"
490 PRINT "YOUR SENSORS INDICATE THIS COULD BE"
500 PRINT "THE ONE.  HIT THE ENTER KEY TO TURN"
510 PRINT "YOUR VIEWING SCREEN ON";
520 INPUT D$
530 A=INT(RND(1)*19)*2-1
540 IF A<3 THEN 530
550 FOR B=1 TO A STEP 2
560 PRINT TAB(20-B/2);
570 FOR F=1 TO B
580 PRINT FI$;
590 NEXT F
600 NEXT B
```

(continued)

```
610 FOR C=A TO 1 STEP -2
620 PRINT TAB(20-C/2);
630 FOR G=1 TO C
640 PRINT LI$;
650 NEXT G
660 NEXT C
670 GOTO 530
680 REM --- LINE DRAWING SUBROUTINE
690 PRINT
700 FOR L=1 TO 34
710 PRINT "=";
720 NEXT L
730 PRINT
740 PRINT
750 RETURN
760 REM --- READING SUBROUTINE
770 FOR J=1 TO INT(RND(1)*15)+1
780 READ W$
790 NEXT J
800 RESTORE
810 RETURN
820 DATA COLD,HOT,STUPID,ROCKY,AIRLESS,WATERY,DRY,BORING
830 DATA SILLY,GREASY,DIRTY,TINY,SMELLY,DUSTY,STEAMY
```

☐ If You Have . . .

APPLE II

Delete: 190

   Add: 595 PRINT
         655 PRINT

Change: 500 PRINT "THE ONE.   HIT THE RETURN KEY TO TURN"

ATARI

Delete: 190

   Add: 95 DIM FI$(1),LI$(1),D$(1),W$(7)
         595 PRINT
         655 PRINT
         845 FOR AA=1 TO IDX
         855 PRINT " ";:NEXT AA:RETURN

Change: 140 IF LEN(FI$)>1 THEN FI$=FI$(1,1)
         180 IF LEN(LI$)>1 THEN LI$=LI$(1,1)
         200 Y=INT(RND(0)*10)+1
         500 PRINT "THE ONE.   HIT THE RETURN KEY TO TURN"
         530 A=INT(RND(0)*19)*2-1

90
```

```
560 IDX=(20-B/2):GOSUB 845
620 IDX=(20-C/2):GOSUB 845
770 FOR J=1 TO INT(RND(0)*15)+1
```

COMMODORE 64

Delete: 190

Add: 595 PRINT
      655 PRINT

Change: 200 Y=INT(RND(0)*10)+1
         500 PRINT "THE ONE. HIT THE RETURN KEY TO TURN"
         530 A=INT(RND(0)*19)*2-1
         770 FOR J=1 TO INT(RND(0)*15)+1

COMMODORE VIC-20

Delete: 190

Add: 314 PRINT "HIT THE RETURN KEY FOR MORE!"
      315 INPUT MOR$
      595 PRINT
      655 PRINT

Change: 110 PRINT "WHAT'S YOUR FIRST INITIAL"
         150 PRINT "WHAT'S YOUR LAST INITIAL"
         200 Y=INT(RND(0)*10)+1
         350 PRINT "TO CHECK (FROM 1 TO 10)"
         500 PRINT "THE ONE. HIT THE RETURN KEY TO TURN"
         530 A=INT((RND(0)*9))*2-1
         560 PRINT TAB(10-B/2)
         620 PRINT TAB(10-C/2)
         700 FOR L=1 TO 21

TEXAS INSTRUMENTS 99/4A

Add: 145 FI$=SEG$(FI$,1,1)
      185 LI$=SEG$(LI$,1,1)

Change: 140 IF LEN(FI$)<=1 THEN 150
         180 IF LEN(LI$)<=1 THEN 200
         190 RANDOMIZE
         200 Y=INT(RND*10)+1
         300 PRINT "YOUR GREATEST DISCOVERY"
         310 PRINT "IF YOU LOCATED THESE."
         370 IF (G<1)+(G>10) THEN 330
         530 A=INT(RND*13)*2-1
         560 PRINT TAB(13-B/2);
         620 PRINT TAB(13-C/2);
         700 FOR L=1 TO 28
         770 FOR J=1 TO INT(RND*15)+1   *(continued)*

91
```

# TRS-80 COLOR COMPUTER

Delete: 190

Add: 215 CLS
     595 PRINT
     655 PRINT

Change: 200 Y=RND(10)
        220 PRINT "YOU'RE AN EXPLORER WHO IS FAMOUS ";
        230 PRINT "ALL ACROSS THE UNIVERSE FOR YOUR ";
        240 PRINT "DISCOVERIES.  FOR YEARS YOU HAVE ";
        270 PRINT "CIVILIZATION BUILT A LONG STRING ";
        280 PRINT "OF GIANT PYRAMIDS, EACH WITH ITS ";
        340 PRINT "SYSTEM.  ENTER WHICH ONE YOU WANT ";
        530 A=RND(15)*2-1
        560 PRINT TAB(16-B/2);
        620 PRINT TAB(16-C/2);
        700 FOR L=1 TO 32
        770 FOR J=1 TO RND(15)

# Stranded on Mars

You and your robot vehicle have strayed too far from your spacecraft.
But your space suit's oxygen supply won't last forever.
Can you get back to your ship before it's too late?

## ☐ Sample Run

```
WHAT'S YOUR SPACE SHIP NAMED? YANKEE CLIPPER

YOU ARE A BRAVE SPACE EXPLORER
STRANDED ON MARS DURING A VIOLENT
DUST STORM.  YOU CAN'T SEE YOUR
SPACE SHIP, BUT YOU KNOW IT IS
SOMEWHERE AHEAD.  FORTUNATELY YOU
ARE RIDING IN A SPECIAL ROBOT CAR
WITH FEET THAT CAN WALK QUICKLY
ACROSS THE ROUGH MARTIAN LANDSCAPE.
THE ONLY PROBLEM IS THAT YOU ARE
RUNNING LOW ON OXYGEN AND NEED TO
GET BACK TO THE SHIP QUICKLY.

WHICH WAY IS THE SHIP:

     1 TO THE LEFT
     2 TO THE RIGHT
     3 STRAIGHT AHEAD

NOW CHOOSE ONE? 2

             **
             **
             **
             **
             **
        **
        **
        **
        **
        **

                **
                **
                **
                **
                **
           **
           **
           **
           **
           **
```

```
                                        **
                                        **
                                        **
                                        **
                                        **
                            **
                            **
                            **
                            **
                            **

                                                **
                                                **
                                                **
                                                **
                                                **
                                    **
                                    **
                                    **
                                    **
                                    **
```

GOOD WORK!   YOU GUESSED RIGHT AND
MADE IT SAFELY BACK!!

☐ Program Listing

```
10 REM STRANDED ON MARS
100 PRINT "WHAT'S YOUR SPACE SHIP NAMED";
110 INPUT N$
120 IF LEN(N$)<2 THEN 100
130 RANDOMIZE ASC(MID$(N$,1,1))*ASC(MID$(N$,2,1))
140 X=0
150 Y=INT(RND(1)*3)+1
160 PRINT
170 PRINT "YOU ARE A BRAVE SPACE EXPLORER"
180 PRINT "STRANDED ON MARS DURING A VIOLENT"
190 PRINT "DUST STORM.  YOU CAN'T SEE YOUR"
200 PRINT "SPACE SHIP, BUT YOU KNOW IT IS"
210 PRINT "SOMEWHERE AHEAD.  FORTUNATELY YOU"
220 PRINT "ARE RIDING IN A SPECIAL ROBOT CAR"
230 PRINT "WITH FEET THAT CAN WALK QUICKLY"
240 PRINT "ACROSS THE ROUGH MARTIAN LANDSCAPE."
250 PRINT "THE ONLY PROBLEM IS THAT YOU ARE"
260 PRINT "RUNNING LOW ON OXYGEN AND NEED TO"
270 PRINT "GET BACK TO THE SHIP QUICKLY."
280 PRINT
290 PRINT "WHICH WAY IS THE SHIP:"
```

```
300 PRINT
310 PRINT TAB(5);"1";TAB(8);"TO THE LEFT"
320 PRINT TAB(5);"2";TAB(8);"TO THE RIGHT"
330 PRINT TAB(5);"3";TAB(8);"STRAIGHT AHEAD"
340 PRINT
350 PRINT "NOW CHOOSE ONE";
360 INPUT Z
370 IF Z<1 OR Z>3 THEN 350
380 ON Z GOTO 390,430,430
390 P=29
400 Q=1
410 R=-1
420 GOTO 460
430 P=1
440 Q=29
450 R=1
460 FOR C=1 TO 25
470 PRINT
480 NEXT C
490 FOR D=P TO Q STEP R
500 FOR E=1 TO 5
510 IF Z<3 THEN 540
520 PRINT TAB(5);"**"
530 GOTO 550
540 PRINT TAB(5+D);"**"
550 NEXT E
560 PRINT
570 FOR F=1 TO 5
580 IF Z<3 THEN 610
590 PRINT TAB(9);"**"
600 GOTO 620
610 PRINT TAB(9+D);"**"
620 NEXT F
630 NEXT D
640 PRINT
650 IF Z<>Y THEN 690
660 PRINT "GOOD WORK!  YOU GUESSED RIGHT AND"
670 PRINT "MADE IT SAFELY BACK!!"
680 END
690 X=X+1
700 IF X=2 THEN 750
710 PRINT "NO--IT'S DEFINITELY NOT IN THIS"
720 PRINT "DIRECTION.  YOU HAVE JUST ENOUGH"
730 PRINT "OXYGEN LEFT FOR ONE MORE GUESS."
740 GOTO 280
750 PRINT "TOO BAD--YOUR SHIP WAS IN THE OTHER"
760 PRINT "DIRECTION.  AND..."
770 PRINT "GASP...NO...MORE...OXYGEN..."
```

☐ If You Have . . .

APPLE II

Delete: 130

ATARI

Delete: 130

Add: 95 DIM N$(40)
  775 END
  785 FOR AA=1 TO IDX,
  795 PRINT " ";:NEXT AA:RETURN

Change: 150 Y=INT(RND(0)*3)+1
  310 IDX=4:GOSUB 785:PRINT "1";:GOSUB 785:PRINT
    "TO THE LEFT"
  320 GOSUB 785:PRINT "2";:GOSUB 785:PRINT "TO THE
    RIGHT"
  330 GOSUB 785:PRINT "3";:GOSUB 785:PRINT
    "STRAIGHT AHEAD"
  390 P=27
  440 Q=27
  520 IDX=4:GOSUB 785:PRINT "**"
  540 IDX=(4+D):GOSUB 785:PRINT "**"
  590 IDX=8:GOSUB 785:PRINT "**"
  610 IDX=8+D:GOSUB 785:PRINT "**"

COMMODORE 64

Delete: 130

Change: 150 Y=INT(RND(0)*3)+1
  390 P=28
  440 Q=28

COMMODORE VIC-20

Delete: 130

Add: 245 PRINT "HIT THE RETURN KEY FOR MORE!"
  246 INPUT MOR$

Change: 100 PRINT "WHAT'S YOUR SPACE SHIP NAMED"
  150 Y=INT(RND(0)*3)+1
  350 PRINT "CHOOSE ONE"
  390 P=14
  440 Q=14
  520 PRINT TAB(1);"**"
  540 PRINT TAB(1+D);"**"

```
590 PRINT TAB(5);"**"
610 PRINT TAB(5+D);"**"
```

TEXAS INSTRUMENTS 99/4A

Add: `285 INPUT DAM$`

Change:
```
130 RANDOMIZE
150 Y=INT(RND*3)
280 PRINT "HIT ENTER TO CONTINUE"
370 IF (Z<1)+(Z>3) THEN 350
390 P=13
440 Q=13
```

TRS-80 COLOR COMPUTER

Delete: `130`

Add:
```
285 PRINT "(PRESS ENTER FOR NEXT PAGE)"
288 INPUT X$
289 CLS
```

Change:
```
150 Y=RND(3)
170 PRINT "YOU ARE A BRAVE SPACE EXPLORER ";
180 PRINT "STRANDED ON MARS DURING A VIOLENT ";
210 PRINT "SOMEWHERE AHEAD.  FORTUNATELY YOU ";
220 PRINT "ARE RIDING IN A SPECIAL ROBOT CAR ";
230 PRINT "WITH FEET THAT CAN WALK QUICKLY ";
240 PRINT "ACROSS THE ROUGH MARTIAN LANDSCAPE. ";
250 PRINT "THE ONLY PROBLEM IS THAT YOU ARE ";
260 PRINT "RUNNING LOW ON OXYGEN AND NEED TO ";
390 P=21
440 Q=21
720 PRINT "DIRECTION.  YOU HAVE JUST ENOUGH ";
```

Space Shuttle Pilot

You're piloting the first space shuttle mission beyond Earth's orbit! But your onboard computer isn't working properly. You and the machine will have to help each other or you'll end up stranded in space forever!

☐ Sample Run

```
YOU ARE STRANDED ON YOUR WAY BACK
FROM THE MOON BECAUSE YOUR COMPUTER
HAS DEVELOPED A TRICKY PROBLEM.

IT CAN STILL NAVIGATE PERFECTLY,
BUT IT HAS LOST ITS ABILITY TO
PERFORM ADDITION OR SUBTRACTION.

YOU MUST HELP IT OR YOU'LL NEVER
SEE THE EARTH AGAIN.

HOW MANY SPACE VOYAGES HAVE YOU MADE? 41

YOU ARE 200 THOUSAND MILES FROM
HOME--THE COMPUTER NEEDS YOUR HELP
TO SOLVE THIS PROBLEM:

      31 - 18  =

QUICK--WHAT IS THE ANSWER? 13


==========================================
                 RIGHT!!
          THE COMPUTER THANKS YOU!
==========================================

YOU ARE 175 THOUSAND MILES FROM
HOME--THE COMPUTER NEEDS YOUR HELP
TO SOLVE THIS PROBLEM:

      36 - 16  =

QUICK--WHAT IS THE ANSWER? 20

==========================================
                 RIGHT!!
          GOOD--YOU'RE ON COURSE!
==========================================

YOU ARE 135 THOUSAND MILES FROM
HOME--THE COMPUTER NEEDS YOUR HELP
TO SOLVE THIS PROBLEM:

      95 - 77  =

QUICK--WHAT IS THE ANSWER? 75


==========================================
```

```
                    WRONG!!
         THE ANSWER IS ACTUALLY 18
       YOU'RE HEADING FARTHER FROM HOME.
=========================================

YOU ARE 155 THOUSAND MILES FROM
HOME--THE COMPUTER NEEDS YOUR HELP
TO SOLVE THIS PROBLEM:

     91 - 30  =

QUICK--WHAT IS THE ANSWER? 61


=========================================
                  RIGHT!!
          GOOD--YOU'RE ON COURSE!
=========================================

YOU ARE 110 THOUSAND MILES FROM
HOME--THE COMPUTER NEEDS YOUR HELP
TO SOLVE THIS PROBLEM:

     98 - 65  =

QUICK--WHAT IS THE ANSWER? 33


=========================================
                  RIGHT!!
          GOOD--YOU'RE ON COURSE!
=========================================

YOU ARE 70 THOUSAND MILES FROM
HOME--THE COMPUTER NEEDS YOUR HELP
TO SOLVE THIS PROBLEM:

     73 - 64  =

QUICK--WHAT IS THE ANSWER? 9


=========================================
                  RIGHT!!
      NICE WORK--EARTH IS GETTING CLOSER!
=========================================

YOU ARE 20 THOUSAND MILES FROM
HOME--THE COMPUTER NEEDS YOUR HELP
TO SOLVE THIS PROBLEM:

     96 + 37  =

QUICK--WHAT IS THE ANSWER? 133


=========================================
                  RIGHT!!
    YOU DID IT!  YOU MADE IT SAFELY HOME!
      WANT TO TRY AGAIN (YES OR NO)? NO
```

☐ Program Listing

```
10 REM SPACE SHUTTLE PILOT
100 PRINT
110 PRINT "YOU ARE STRANDED ON YOUR WAY BACK"
120 PRINT "FROM THE MOON BECAUSE YOUR COMPUTER"
130 PRINT "HAS DEVELOPED A TRICKY PROBLEM."
140 PRINT
150 PRINT "IT CAN STILL NAVIGATE PERFECTLY,"
160 PRINT "BUT IT HAS LOST ITS ABILITY TO"
170 PRINT "PERFORM ADDITION OR SUBTRACTION."
180 PRINT
190 PRINT "YOU MUST HELP IT OR YOU'LL NEVER"
200 PRINT "SEE THE EARTH AGAIN."
210 PRINT
220 PRINT "HOW MANY SPACE VOYAGES HAVE YOU MADE";
230 INPUT R
240 RANDOMIZE R
250 PRINT
260 D=200
270 PRINT "YOU ARE ";D;" THOUSAND MILES FROM"
280 PRINT "HOME--THE COMPUTER NEEDS YOUR HELP"
290 PRINT "TO SOLVE THIS PROBLEM:"
300 A=INT(RND(1)*100)+1
310 B=INT(RND(1)*100)+1
320 IF A<B+1 THEN 300
330 PRINT
340 IF INT(RND(1)*2)=0 THEN 400
350 PRINT TAB(5);A;TAB(10);"+";TAB(13);B;TAB(20);"="
360 GOSUB 860
370 R=A+B
380 IF Z=R THEN 450
390 GOTO 680
400 PRINT TAB(5);A;TAB(10);"-";TAB(13);B;TAB(20);"="
410 GOSUB 860
420 R=A-B
430 IF Z=R THEN 450
440 GOTO 680
450 REM --- RIGHT ANSWER ---
460 D=D-(INT(RND(1)*10)+1)*5
470 GOSUB 920
480 PRINT TAB(16);"RIGHT!!
490 PRINT
500 IF D>0 THEN 580
510 PRINT TAB(2);"YOU DID IT!  YOU MADE IT SAFELY HOME!"
520 PRINT
530 PRINT TAB(5);"WANT TO TRY AGAIN (YES OR NO)";
540 INPUT Y$
550 IF MID$(Y$,1,1)="N" THEN END
560 GOSUB 920
570 GOTO 250
580 ON INT(RND(1)*4)+1 GOTO 590,610,630,650
590 PRINT TAB(8);"GOOD--YOU'RE ON COURSE!"
600 GOTO 660
```

```
610 PRINT TAB(5);"YOU'RE HEADING CLOSER TO HOME!"
620 GOTO 660
630 PRINT TAB(8);"THE COMPUTER THANKS YOU!"
640 GOTO 660
650 PRINT TAB(2);"NICE WORK--EARTH IS GETTING CLOSER!"
660 GOSUB 920
670 GOTO 270
680 REM --- WRONG ANSWER ---
690 D=D+(INT(RND(1)*5)+1)*5
700 GOSUB 920
710 PRINT
720 PRINT TAB(16);"WRONG!!"
730 PRINT
740 PRINT TAB(7);"THE ANSWER IS ACTUALLY ";R
750 PRINT
760 ON INT(RND(1)*4)+1 GOTO 770,790,810,830
770 PRINT TAB(4);"YOU'RE DRIFTING WELL OFF COURSE."
780 GOTO 840
790 PRINT TAB(4);"YOU'RE HEADING FARTHER FROM HOME."
800 GOTO 840
810 PRINT TAB(2);"YOU'RE RAPIDLY MOVING AWAY FROM EARTH."
820 GOTO 840
830 PRINT TAB(2);"YOU'D BETTER GET THE NEXT ONE RIGHT!"
840 GOSUB 920
850 GOTO 270
860 PRINT
870 PRINT "QUICK--WHAT IS THE ANSWER";
880 INPUT Z
890 IF Z<1 THEN 860
900 RETURN
910 REM --- LINE SUBROUTINE ---
920 PRINT
930 FOR L=1 TO 39
940 PRINT "=";
950 NEXT L
960 PRINT
970 PRINT
980 RETURN
```

☐ If You Have . . .

APPLE II

Delete: 240

ATARI

Delete: 240

Add: 95 DIM Y$(3)
     355 GOSUB 995:PRINT B;:IDX=5:GOSUB 995:PRINT "="

(continued)

```
405 GOSUB 995:PRINT B;:IDX=5:GOSUB 995:PRINT "="
995 FOR AA=1 TO IDX
1005 PRINT " ";:NEXT AA:RETURN
```

Change:
```
300 A=INT(RND(0)*100)+1
310 B=INT(RND(0)*100)+1
340 IF INT(RND(0)*2)=0 THEN 400
350 IDX=4:GOSUB 995:PRINT A;:GOSUB 995:PRINT "+";
400 IDX=4:GOSUB 995:PRINT A;:GOSUB 995:PRINT "-";
460 D=D-(INT(RND(0)*10)+1)*5
480 IDX=13:GOSUB 995:PRINT "RIGHT!!"
510 IDX=2:GOSUB 995:PRINT "YOU DID IT!  YOU MADE
    IT SAFELY HOME!"
530 IDX=5:GOSUB 995:PRINT "WANT TO TRY AGAIN (YES
    OR NO)";
550 IF Y$(1,1)="N" THEN END
580 ON INT(RND(0)*4)+1 GOTO 590,610,630,650
590 IDX=8:GOSUB 995:PRINT "GOOD--YOU'RE ON COURSE!"
610 IDX=5:GOSUB 995:PRINT "YOU'RE HEADING CLOSER
    TO HOME!"
630 IDX=8:GOSUB 995:PRINT "THE COMPUTER THANKS YOU!"
650 IDX=2:GOSUB 995:PRINT "NICE WORK--EARTH IS
    GETTING CLOSER!"
690 D=D+(INT(RND(0)*5)+1)*5
720 IDX=16:GOSUB 995:PRINT "WRONG!!"
740 IDX=7:GOSUB 995:PRINT "THE ANSWER IS ACTUALLY ";R
760 ON INT(RND(0)*4)+1 GOTO 770,790,810,830
770 IDX=4:GOSUB 995:PRINT "YOU'RE DRIFTING WELL OFF
    COURSE."
790 IDX=4:GOSUB 995:PRINT "YOU'RE HEADING FARTHER
    FROM HOME."
810 IDX=2:GOSUB 995:PRINT "YOU'RE RAPIDLY MOVING
    AWAY FROM HOME."
830 IDX=2:GOSUB 995:PRINT "YOU'D BETTER GET THE
    NEXT ONE RIGHT!"
930 FOR L=1 TO 37
```

COMMODORE 64

Delete: 240

Change:
```
300 A=INT(RND(0)*100)+1
310 B=INT(RND(0)*100)+1
340 IF INT(RND(0)*2)=0 THEN 400
460 D=D-(INT(RND(0)*10)+1)*5
580 ON INT(RND(0)*4)+1 GOTO 590,610,630,650
690 D=D+(INT(RND(0)*5)+1)*5
760 ON INT(RND(0)*4)+1 GOTO 770,790,810,830
```

COMMODORE VIC-20

Delete: 240

```
Change:   220  PRINT "HOW MANY SPACE VOYAGES HAVE YOU MADE"
          300  A=INT(RND(0)*100)+1
          310  B=INT(RND(0)*100)+1
          340  IF INT(RND(0)*2)=0 THEN 400
          460  D=D-(INT(RND(0)*10)+1)*5
          480  PRINT TAB(7);"RIGHT!!"
          530  PRINT TAB(5);"WANT TO TRY AGAIN (YES OR NO)"
          580  ON INT(RND(0)*4)+1 GOTO 590,610,630,650
          690  D=D+(INT(RND(0)*5)+1)*5
          760  ON INT(RND(0)*4)+1 GOTO 770,790,810,830
          870  PRINT "QUICK--WHAT IS THE ANSWER"
          930  FOR L=1 TO 21
```

TEXAS INSTRUMENTS 99/4A

```
Add:      555  END
```

```
Change:   240  RANDOMIZE
          300  A=INT(RND*100)+1
          310  B=INT(RND*100)+1
          340  IF INT(RND*2)=0 THEN 400
          460  D=D-(INT(RND*10)+1)*5
          550  IF SEG$(Y$,1,1)<>"N" THEN 560
          580  ON INT(RND*4)+1 GOTO 590,610,630,650
          690  D=D+(INT(RND*5)+1)*5
          760  ON INT(RND*4)+1 GOTO 770,790,810,830
          930  FOR L=1 TO 28
```

TRS-80 COLOR COMPUTER

```
Delete:   240
```

```
Add:      846  PRINT "(PRESS ENTER TO CONTINUE)"
          848  INPUT X$:CLS
```

```
Change:   150  PRINT "IT CAN STILL NAVIGATE PERFECTLY, ";
          170  PRINT "PERFORM ADDITION OR SUBTRACTION. ";
          190  PRINT "YOU MUST HELP IT OR YOU'LL NEVER ";
          300  A=RND(100)
          310  B=RND(100)
          340  IF RND(2)-1=0 THEN 400
          460  D=D-(RND(10))*5
          580  ON RND(4) GOTO 590,610,630,650
          690  D=D+RND(5)*5
          760  ON RND(4) GOTO 770,790,810,830
          930  FOR L=1 TO 31
```

Interplanetary Art Gallery

Here's the greatest art collection of the twenty-first century!
Even Rembrandt would be jealous!

☐ Sample Run

```
CITIZENS OF THE YEAR 2090, WELCOME
TO THE INTERPLANETARY ART GALLERY.
JUST STEP ONTO THE MOVING WALKWAY
AND ADMIRE THE GEOMETRIC PAINTINGS
OF OUR MOST MODERN ARTISTS.   NOW
JUST HIT THE ENTER KEY TO BEGIN?

   +++++++++++++
   +++++++++++++
   +++++++++++++
   +++++++++++++
   +++++++++++++
   +++++++++++++

      OOOOOHHH!!

         ================
         ================
         ================
         ================
         ================
         ================
         ================
         ================

                        >>>>>>>>>
                        >>>>>>>>>
                        >>>>>>>>>
                        >>>>>>>>>
      OOOOOHHH!!

                  ::::::::::::::::::
                  ::::::::::::::::::
                  ::::::::::::::::::
                  ::::::::::::::::::
                  ::::::::::::::::::
                  ::::::::::::::::::
                  ::::::::::::::::::
                  ::::::::::::::::::
                  ::::::::::::::::::

      OOOOOHHH!!
```

```
@@@@@@@@@@
@@@@@@@@@@
@@@@@@@@@@
@@@@@@@@@@
@@@@@@@@@@
```

GORGEOUS STUFF!

```
. . . . . . . . . . . . . . . . . . . . . .
. . . . . . . . . . . . . . . . . . . . . .
. . . . . . . . . . . . . . . . . . . . . .
. . . . . . . . . . . . . . . . . . . . . .
. . . . . . . . . . . . . . . . . . . . . .
. . . . . . . . . . . . . . . . . . . . . .
. . . . . . . . . . . . . . . . . . . . . .
. . . . . . . . . . . . . . . . . . . . . .
```

```
///////////////
///////////////
///////////////
///////////////
///////////////
///////////////
```

GORGEOUS STUFF!

```
: : : : : : : : : : : : : : : : :
: : : : : : : : : : : : : : : : :
: : : : : : : : : : : : : : : : :
: : : : : : : : : : : : : : : : :
: : : : : : : : : : : : : : : : :
: : : : : : : : : : : : : : : : :
: : : : : : : : : : : : : : : : :
: : : : : : : : : : : : : : : : :
```

GORGEOUS STUFF!

```
@@@@@@@@@@@@
@@@@@@@@@@@@
@@@@@@@@@@@@
@@@@@@@@@@@@
@@@@@@@@@@@@
```

BEAUTIFUL!!

Break

☐ Program Listing

```
10 REM INTERPLANETARY ART GALLERY
100 PRINT "CITIZENS OF THE YEAR 2090, WELCOME"
110 PRINT "TO THE INTERPLANETARY ART GALLERY."
120 PRINT "JUST STEP ONTO THE MOVING WALKWAY"
130 PRINT "AND ADMIRE THE GEOMETRIC PAINTINGS"
140 PRINT "OF OUR MOST MODERN ARTISTS.  NOW"
```

(continued)

```
150 PRINT "JUST HIT THE ENTER KEY TO BEGIN";
160 INPUT H$
170 FOR W=1 TO 25
180 PRINT
190 NEXT W
200 K=1
210 A=INT(RND(1)*30)+1
220 B=INT(RND(1)*(30-A))+8
230 K=K+1
240 IF K>8 THEN K=1
250 ON K GOTO 260,280,300,320,340,360,380,400
260 A$="."
270 GOTO 410
280 A$="/"
290 GOTO 410
300 A$="-"
310 GOTO 410
320 A$="+"
330 GOTO 410
340 A$="="
350 GOTO 410
360 A$=">"
370 GOTO 410
380 A$=":"
390 GOTO 410
400 A$="@"
410 FOR H=1 TO B/2
420 PRINT TAB(A);
430 FOR T=1 TO B+1
440 PRINT A$;
450 NEXT T
460 NEXT H
470 FOR S=1 TO 5
480 PRINT
490 NEXT S
500 ON (RND(1)*9)+1 GOTO 510,530,550,570,210,210,210,210,210
510 PRINT TAB(5);"BEAUTIFUL!!"
520 GOTO 580
530 PRINT TAB(5);"OOOOOHHH!!"
540 GOTO 580
550 PRINT TAB(5);"GORGEOUS STUFF!"
560 GOTO 580
570 PRINT TAB(5);"FABULOUS!!"
580 FOR Q=1 TO 5
590 PRINT
600 NEXT Q
610 GOTO 210
```

☐ If You Have . . .

APPLE II

Add: `455 PRINT`

Change: `150 PRINT "JUST HIT THE RETURN KEY TO BEGIN";`

ATARI

Add:
```
95 DIM H$(1),A$(1)
455 PRINT
625 FOR AA=1 TO IDX
635 PRINT " ";:NEXT AA:RETURN
```

Change:
```
150 PRINT "JUST HIT THE RETURN KEY TO BEGIN";
210 A=INT(RND(0)*28)+1
220 B=INT(RND(0)*(28-A))+8
420 IDX=A:GOSUB 625
500 ON (RND(0)*9)+1 GOTO 510,530,550,570,210,210,
    210,210,210
510 IDX=5:GOSUB 625:PRINT "BEAUTIFUL!!"
530 IDX=5:GOSUB 625:PRINT "OOOOOHHH!!"
550 IDX=5:GOSUB 625:PRINT "GORGEOUS STUFF!"
570 IDX=5:GOSUB 625:PRINT "FABULOUS!!"
```

COMMODORE 64

Add: `455 PRINT`

Change:
```
150 PRINT "JUST HIT THE ENTER KEY TO BEGIN";
210 A=INT(RND(0)*30)+1
220 B=INT(RND(0)*(30-A))+8
500 ON (RND(0)*9)+1 GOTO 510,530,550,570,210,210,
    210,210,210
```

COMMODORE VIC-20

Add: `455 PRINT`

Change:
```
150 PRINT "JUST HIT THE ENTER KEY TO BEGIN"
210 A=INT(RND(0)*15)+1
220 B=INT(RND(0)*(15-A))+5
500 ON (RND(0)*9)+1 GOTO 510,530,550,570,210,210,
    210,210,210
```

TEXAS INSTRUMENTS 99/4A

Add: `245 K=1`

```
Change:  210  A=INT(RND*30)+1
         220  B=INT(RND*(27-A))+1
         240  IF K<=8 THEN 250
         500  ON INT(RND*9)+1 GOTO 510,530,550,570,210,210,
              210,210,210
```

TRS-80 COLOR COMPUTER

```
Add:  455  PRINT
```

```
Change:  210  A=RND(23)
         220  B=RND(23-A)+7
         500  ON RND(9) GOTO 510,530,550,570,210,210,210,
              210,210
```

Bust the Scales

You may not have a weight problem here on Earth. But on another planet, it could be a different story. Here's one way to gain or lose weight fast!

☐ Sample Run

```
HOW MANY POUNDS DO YOU WEIGH? 120

        1   THE SUN
        2   MERCURY
        3   VENUS
        4   THE MOON
        5   MARS
        6   JUPITER
        7   SATURN
        8   URANUS
        9   NEPTUNE
       10   PLUTO

TO FIND OUT HOW MUCH YOU WOULD
WEIGH IF YOU LIVED IN ANOTHER
PART OF THE SOLAR SYSTEM,
CHOOSE A NUMBER? 2


=========================================
ON EARTH, YOU WEIGH 120 POUNDS.  BUT
ON MERCURY YOU'D WEIGH 33.6 POUNDS.
=========================================

WANT TO CHECK ANOTHER PLACE? YES

TO FIND OUT HOW MUCH YOU WOULD
WEIGH IF YOU LIVED IN ANOTHER
PART OF THE SOLAR SYSTEM,
CHOOSE A NUMBER? 6


=========================================
ON EARTH, YOU WEIGH 120 POUNDS.  BUT
ON JUPITER YOU'D WEIGH 312 POUNDS.
=========================================

WANT TO CHECK ANOTHER PLACE? YES

TO FIND OUT HOW MUCH YOU WOULD
WEIGH IF YOU LIVED IN ANOTHER
PART OF THE SOLAR SYSTEM,
CHOOSE A NUMBER? 10
```

```
=======================================
ON EARTH, YOU WEIGH 120 POUNDS.  BUT
ON PLUTO YOU'D WEIGH 16.8 POUNDS.
=======================================

WANT TO CHECK ANOTHER PLACE? NO
```

☐ Program Listing

```
10 REM BUST THE SCALES
100 PRINT
110 PRINT "HOW MANY POUNDS DO YOU WEIGH";
120 INPUT Y
130 IF Y<30 THEN 110
140 PRINT
150 FOR J=1 TO 10
160 READ A$
170 READ X$
180 PRINT TAB(5);J;TAB(10);A$
190 NEXT J
200 RESTORE
210 PRINT
220 PRINT "TO FIND OUT HOW MUCH YOU WOULD"
230 PRINT "WEIGH IF YOU LIVED IN ANOTHER"
240 PRINT "PART OF THE SOLAR SYSTEM,"
250 PRINT "CHOOSE A NUMBER";
260 INPUT L
270 IF L<1 OR L>10 THEN 250
280 FOR I=1 TO L
290 READ P$
300 READ F$
310 NEXT I
320 PRINT
330 RESTORE
340 G=VAL(F$)
350 GOSUB 450
360 PRINT "ON EARTH, YOU WEIGH ";Y;" POUNDS.  BUT"
370 PRINT "ON ";P$;" YOU'D WEIGH ";G*Y;" POUNDS."
380 GOSUB 450
390 PRINT
400 PRINT "WANT TO CHECK ANOTHER PLACE";
410 INPUT Y$
420 IF MID$(Y$,1,1)<>"N" THEN 140
430 END
440 REM --- LINE SUBROUTINE ---
450 PRINT
460 FOR L=1 TO 39
470 PRINT "=";
480 NEXT L
490 PRINT
500 PRINT
```

```
510 RETURN
520 DATA THE SUN,28,MERCURY,.28,VENUS,.85
530 DATA THE MOON,.16,MARS,.38,JUPITER,2.6
540 DATA SATURN,1.2,URANUS,1.1,NEPTUNE,1.4
550 DATA PLUTO,.14
```

☐ If You Have . . .

APPLE II   No Changes Required

ATARI

```
 Add:   95 DIM A$(8),X$(4),P$(8),F$(4),Y$(1)
        565 FOR AA=1 TO IDX
        575 PRINT " ";:NEXT AA:RETURN

Change: 180 IDX=4:GOSUB 565:PRINT J;:GOSUB 565:PRINT A$
        420 IF Y$(1,1)<>"N" THEN 140
        460 FOR L=1 TO 37
```


COMMODORE 64   No Changes Required

COMMODORE VIC-20

```
Change: 110 PRINT "HOW MANY POUNDS DO YOU WEIGH"
        250 PRINT "CHOOSE A NUMBER"
        400 PRINT "WANT TO CHECK ANOTHER PLACE"
        460 FOR L=1 TO 21
```


TEXAS INSTRUMENTS 99/4A

```
Change: 270 IF (L<1)+(L>10) THEN 250
        420 IF SEG$(Y$,1,1)<>"N" THEN 140
        460 FOR L=1 TO 28
```


TRS-80 COLOR COMPUTER

```
Change: 460 FOR L=1 TO 31
```

First Bank of Pluto

How does a bank on far-off Pluto stay in business? By offering interest rates that are truly astronomical! The bank will pay you terrific interest rates — every year, every month, or even every day! Make a deposit — you can double your marsmarks in no time!

☐ Sample Run

```
HI!  I'M YOUR FRIENDLY COMPUTER BANKING
TERMINAL, ATTACHED DIRECTLY TO THE
FIRST INTERSTELLAR BANK OF PLUTO.  I
CAN DEPOSIT YOUR MONEY VIA SPACELINK
AND CALCULATE YOUR INTEREST, TAKING
INTO ACCOUNT THE AMOUNT, THE INTEREST
RATE, AND COMPOUNDING.

HOW MUCH WOULD YOU LIKE TO SAVE? $20000

IS THAT IN:

     1   PESETAS        2   RUBLES
     3   PIASTERS       4   POUNDS
     5   BAHTS          6   DINARS
     7   RUPEES         8   DRACHMAS
     9   RIALS         10   KRONA
    11   WON           12   ZLOTYS
    13   FRANCS        14   ESCUDOS
    15   LEKS          16   LIRA
    17   YEN           18   QUETZALS
    19   KWACHA        20   GUILDER
    21   CRUZEIROS     22   SCHILLINGS
    23   KOPECKS       24   MARKS
    25   FLORINS       26   STIVERS
    27   GUARANI       28   RANDS
    29   RUPEES        30   PATACAS
    31   PESOS         32   DOLLARS
    33   MARSMARKS     34   SATURNSKINS
    35   VENUSBUCKS    36   PLUTOPENCE

CHOOSE A NUMBER? 35

OKAY. NOW ENTER THE INTEREST RATE--

FROM 2 TO 50%? 50%

HOW OFTEN SHOULD WE PAY YOU
50% INTEREST ON YOUR VENUSBUCKS?

       1 EVERY DAY
       2 EVERY WEEK
       3 EVERY MONTH
       4 EVERY YEAR
```

```
CHOOSE A NUMBER? 1

HOW MANY DAYS DO YOU WANT TO
KEEP YOUR 20000 VENUSBUCKS TIED UP? 7

        1      30000 VENUSBUCKS
        2      45000 VENUSBUCKS
        3      67500 VENUSBUCKS
        4      101250 VENUSBUCKS
        5      151875 VENUSBUCKS
        6      227812.5 VENUSBUCKS
        7      341718.8 VENUSBUCKS

AFTER 7 DAYS YOU WOULD HAVE
341718.8 VENUSBUCKS.

WANT TO TRY AGAIN? NO
```

☐ Program Listing

```
10 REM FIRST BANK OF PLUTO
100 PRINT "HI!   I'M YOUR FRIENDLY COMPUTER BANKING"
110 PRINT "TERMINAL, ATTACHED DIRECTLY TO THE"
120 PRINT "FIRST INTERSTELLAR BANK OF PLUTO.   I"
130 PRINT "CAN DEPOSIT YOUR MONEY VIA SPACELINK"
140 PRINT "AND CALCULATE YOUR INTEREST, TAKING"
150 PRINT "INTO ACCOUNT THE AMOUNT, THE INTEREST"
160 PRINT "RATE, AND COMPOUNDING."
170 K=0
180 PRINT
190 PRINT "HOW MUCH WOULD YOU LIKE TO SAVE";
200 INPUT A$
210 IF A$="" THEN 190
220 IF MID$(A$,1,1)="$" THEN A$=MID$(A$,2,LEN(A$)-1)
230 N=VAL(A$)
240 IF N>1 THEN 290
250 PRINT
260 PRINT "1???   NOT MUCH POINT IN THAT!"
270 PRINT "TRY AGAIN, PLEASE..."
280 GOTO 190
290 IF N<1 THEN 170
300 PRINT
310 PRINT "IS THAT IN:"
320 PRINT
330 FOR M=1 TO 18
340 K=K+1
350 GOSUB 1070
360 PRINT TAB(2);K;TAB(6);M$;
370 K=K+1
380 GOSUB 1070
390 PRINT TAB(20);K;TAB(24);M$
400 NEXT M
410 PRINT
```

(continued)

```
420 PRINT "CHOOSE A NUMBER";
430 INPUT C$
440 IF C$="" THEN 420
450 C=VAL(C$)
460 IF C<1 OR C>36 THEN 420
470 K=C
480 GOSUB 1070
490 Z$=M$
500 PRINT
510 PRINT "OKAY. NOW ENTER THE INTEREST RATE--"
520 PRINT "FROM 2 TO 50%";
530 INPUT R$
540 IF R$="" THEN 510
550 IF MID$(R$,LEN(R$),1)="%" THEN R$=MID$(R$,1,LEN(R$)-1)
560 R=VAL(R$)
570 IF R<2 OR R>50 THEN 510
580 PRINT
590 PRINT "HOW OFTEN SHOULD WE PAY YOU"
600 PRINT R;"% INTEREST ON YOUR ";Z$;"?"
610 PRINT
620 FOR M=1 TO 36
630 READ M$
640 NEXT M
650 FOR L=1 TO 4
660 READ P$
670 PRINT TAB(5);L;TAB(9);"EVERY ";MID$(P$,1,LEN(P$)-1)
680 NEXT L
690 RESTORE
700 PRINT
710 PRINT "CHOOSE A NUMBER";
720 INPUT F$
730 F=VAL(F$)
740 IF F<1 OR F>4 THEN 710
750 L=F
760 K=36
770 GOSUB 1070
780 PRINT
790 PRINT "HOW MANY ";P$;" DO YOU WANT TO"
800 PRINT "KEEP YOUR ";N;" ";Z$;" TIED UP";
810 INPUT T$
820 T=VAL(T$)
830 IF T<1 THEN 790
840 PRINT
850 FOR E=1 TO T
860 N=N*(1+(R/100))
870 S=INT(N*100+.5)/100
880 PRINT TAB(5);E;TAB(10);S;" ";Z$
890 IF J<19 THEN 950
900 J=0
910 PRINT
920 PRINT "HIT THE ENTER KEY TO CONTINUE";
930 INPUT X$
940 PRINT
950 J=J+1
960 NEXT E
```

```
 970  PRINT
 980  PRINT "AFTER ";T;" ";P$;" YOU WOULD HAVE"
 990  PRINT S;" ";Z$;"."
1000  PRINT
1010  PRINT "WANT TO TRY AGAIN";
1020  INPUT Y$
1030  IF MID$(Y$,1,1)="N" THEN END
1040  J=0
1050  GOTO 170
1060  REM --- READ SUBROUTINE ---
1070  FOR A=1 TO K
1080  READ M$
1090  NEXT A
1100  FOR B=1 TO L
1110  READ P$
1120  NEXT B
1130  RESTORE
1140  RETURN
1150  DATA PESETAS,RUBLES,PIASTERS,POUNDS
1160  DATA BAHTS,DINARS,RUPEES,DRACHMAS
1170  DATA RIALS,KRONA,WON,ZLOTYS
1180  DATA FRANCS,ESCUDOS,LEKS,LIRA,YEN
1190  DATA QUETZALS,KWACHA,GUILDER,CRUZEIROS
1200  DATA SCHILLINGS,KOPECKS,MARKS
1210  DATA FLORINS,STIVERS,GUARANI,RANDS
1220  DATA RUPEES,PATACAS,PESOS,DOLLARS
1230  DATA MARSMARKS,SATURNSKINS,VENUSBUCKS,PLUTOPENCE
1240  DATA DAYS,WEEKS,MONTHS,YEARS
```

☐ If You Have . . .

APPLE II

Change: `920 PRINT "HIT THE RETURN KEY TO CONTINUE";`

ATARI

```
Add:  95 DIM A$(7),M$(11),C$(5),Z$(11),R$(3)
      96 DIM P$(11),F$(5),T$(5),Y$(3),X$(1)
      355 IX=3:IF K>9 THEN IX=2
      375 LT=LEN(M$):LX=2
      385 IX=15-LT
      675 GOSUB 1255:PRINT " EVERY ";P$(1,LEN(P$)-1)
      1255 FOR AA=1 TO IDX
      1265 PRINT " ";:NEXT AA:RETURN
```

```
Change: 220 IF A$(1,1)="$" THEN A$=A$(2,LEN(A$)-1)
        360 IDX=2:GOSUB 1255:PRINT K;:IDX=IX:GOSUB 1255:
            PRINT M$;
        390 IDX=IX:GOSUB 1255:PRINT K;:IDX=LX:GOSUB 1255:
            PRINT M$
```

(continued)

```
550 IF R$(LEN(R$),LEN(R$))="%" THEN R$=
    R$(1,LEN(R$)-1)
670 IDX=4:GOSUB 1255:PRINT L;
880 IDX=4:GOSUB 1255:PRINT E;:GOSUB 1255:PRINT S;
    " ";Z$
920 PRINT "HIT THE RETURN KEY TO CONTINUE";
1030 IF Y$(1,1)="N" THEN END
```

COMMODORE 64

Change:
```
920 PRINT "HIT THE RETURN KEY TO CONTINUE";
```

COMMODORE VIC-20

Add:
```
395 IF K<>12 AND K<>24 THEN 400
396 PRINT "HIT THE RETURN KEY TO SEE MORE"
397 INPUT MOR$
```

Change:
```
190 PRINT "HOW MUCH WOULD YOU LIKE TO SAVE"
360 PRINT TAB(2);K;TAB(6);M$
390 PRINT TAB(2);K;TAB(6);M$
420 PRINT "CHOOSE A NUMBER"
520 PRINT "FROM 2 TO 50%"
710 PRINT "CHOOSE A NUMBER"
800 PRINT "KEEP YOUR ";N;" ";Z$;" TIED UP"
880 PRINT TAB(1);E;TAB(6);S;" ";Z$
890 PRINT IF J<14 THEN 950
920 PRINT "HIT THE RETURN KEY TO CONTINUE"
1010 PRINT "WANT TO TRY AGAIN"
```

TEXAS INSTRUMENTS 99/4A

Add:
```
225 A$=SEG$(A$,2,LEN(A$)-1)
555 R$=SEG$(R$,1,LEN(R$)-1)
1035 END
```

Change:
```
220 IF SEG$(A$,1,1)<>"$" THEN 230
360 PRINT K;TAB(5);M$;
390 PRINT TAB(14);K;TAB(18);M$
460 IF (C<1)+(C>36) THEN 420
550 IF SEG$(R$,LEN(R$),1)<>"%" THEN 560
570 IF (R<2)+(R>50) THEN 510
670 PRINT TAB(5);L;TAB(9);"EVERY ";
    SEG$(P$,1, LEN(P$)-1)
740 IF (F<1)+(F>4) THEN 710
1030 IF SEG$(Y$,1,1)<>"N" THEN 1035
```

TRS-80 COLOR COMPUTER

Add:
```
395 IF K<>12 THEN 400
396 PRINT "HIT RETURN TO SEE MORE"
397 INPUT X$
```

Change:
```
390 PRINT TAB(16);K;TAB(20);M$
```

Planetary Birthday Party

How many birthdays have you had here on Earth? On some planets you'd have had a lot more — but on others you'd still be waiting for your first birthday party! Run this program and find out which planets use up the most birthday candles!

☐ Sample Run

```
WANT TO KNOW HOW MANY YEARS OLD YOU
WOULD BE ON OTHER PLANETS?  I CAN
FIGURE IT OUT FOR YOU.

FIRST, I NEED TO KNOW YOUR EARTH AGE--
HOW MANY YEARS AND MONTHS OLD YOU ARE.

HOW MANY YEARS OLD ARE YOU? 12

AND HOW MANY MONTHS (0-11)? 4

ON EARTH, YOU ARE ROUGHLY 4504 DAYS
OLD--OR 12.33 YEARS OLD.
NOW LET'S FIND OUT HOW OLD YOU'D BE
ON THESE PLANETS.

          1         MERCURY
          2         VENUS
          3         EARTH
          4         MARS
          5         JUPITER
          6         SATURN
          7         URANUS
          8         NEPTUNE
          9         PLUTO

SELECT A PLANET BY NUMBER? 9

=====================================
ON PLUTO YOU'D BE .05 YEARS OLD.
=====================================

WANT TO TRY ANOTHER PLANET? YES

SELECT A PLANET BY NUMBER? 1

=====================================
ON MERCURY YOU'D BE 51.19 YEARS OLD.
=====================================
```

WANT TO TRY ANOTHER PLANET? YES

SELECT A PLANET BY NUMBER? 5

==
ON JUPITER YOU'D BE 1.04 YEARS OLD.
==

WANT TO TRY ANOTHER PLANET? NO

☐ Program Listing

```
10 REM PLANETARY BIRTHDAY PARTY
100 PRINT "WANT TO KNOW HOW MANY YEARS OLD YOU"
110 PRINT "WOULD BE ON OTHER PLANETS?  I CAN"
120 PRINT "FIGURE IT OUT FOR YOU."
130 PRINT
140 PRINT "FIRST, I NEED TO KNOW YOUR EARTH AGE--"
150 PRINT "HOW MANY YEARS AND MONTHS OLD YOU ARE."
160 PRINT
170 PRINT "HOW MANY YEARS OLD ARE YOU";
180 INPUT Y
190 IF Y<1 OR Y>100 THEN 170
200 PRINT
210 PRINT "AND HOW MANY MONTHS (0-11)";
220 INPUT M
230 IF M<0 OR M>11 THEN 210
240 PRINT
250 T=(Y*365.26)+(M*30.44)
260 PRINT
270 PRINT "ON EARTH, YOU ARE ROUGHLY ";INT(T);" DAYS"
280 PRINT "OLD--OR ";INT(T/365.26*100+.5)/100;" YEARS OLD."
290 PRINT "NOW LET'S FIND OUT HOW OLD YOU'D BE"
300 PRINT "ON THESE PLANETS."
310 PRINT
320 FOR B=1 TO 9
330 Z=B
340 GOSUB 610
350 PRINT TAB(5);B;TAB(15);P$
360 NEXT B
370 PRINT
380 PRINT "SELECT A PLANET BY NUMBER";
390 INPUT N
400 IF N<1 OR N>9 THEN 380
410 PRINT
420 Z=N
430 GOSUB 610
440 GOSUB 530
450 PRINT "ON ";P$;" YOU'D BE ";
460 PRINT INT(T/D(N)*100+.5)/100;" YEARS OLD."
470 GOSUB 530
```

```
480  PRINT "WANT TO TRY ANOTHER PLANET";
490  INPUT Y$
500  IF MID$(Y$,1,1)="N" THEN END
510  GOTO 310
520  REM --- LINE SUBROUTINE ---
530  PRINT
540  FOR L=1 TO 38
550  PRINT "=";
560  NEXT L
570  PRINT
580  PRINT
590  RETURN
600  REM --- READING SUBROUTINE ---
610  FOR C=1 TO 9
620  READ D(C)
630  NEXT C
640  FOR A=1 TO Z
650  READ P$
660  NEXT A
670  RESTORE
680  RETURN
690  DATA 88,224.7,365.26
700  DATA 687,4332.7,10759.7
710  DATA 30686.3,60192,90740.6
720  DATA MERCURY,VENUS,EARTH
730  DATA MARS,JUPITER,SATURN
740  DATA URANUS,NEPTUNE,PLUTO
```

☐ If You Have . . .

APPLE II No Changes Required

ATARI

```
Add:  95 DIM D(9),Y$(3),P$(7)
      625 D(C)=DC
      755 FOR AA=1 TO IDX
      765 PRINT " ";:NEXT AA:RETURN
```

```
Change: 350 IDX=5:GOSUB 755:PRINT B;:IDX=8:GOSUB 755:
            PRINT P$
        500 IF Y$(1,1)="N" THEN END
        540 FOR L=1 TO 36
        620 READ DC
```


COMMODORE 64 No Changes Required

COMMODORE VIC-20

```
Change:  170  PRINT "HOW MANY YEARS OLD ARE YOU"
         210  PRINT "AND HOW MANY MONTHS (0-11)"
         350  PRINT TAB(5);B;TAB(10);P$
         380  PRINT "SELECT A PLANET BY NUMBER"
         480  PRINT "WANT TO TRY ANOTHER PLANET"
         540  FOR L=1 TO 21
```

TEXAS INSTRUMENTS 99/4A

```
Add:  505  END
```

```
Change:  190  IF (Y<1)+(Y>100) THEN 170
         230  IF (M<0)+(M>11) THEN 210
         400  IF (N<1)+(N>9) THEN 380
         500  IF SEG$(Y$,1,1)<>"N" THEN 510
         540  FOR L=1 TO 28
```

TRS-80 COLOR COMPUTER

```
Change:  270  PRINT "ON EARTH, YOU ARE ROUGHLY";INT(T)
         280  PRINT "DAYS OLD--OR ";INT(T/365.26*100+.5)/100;
              "YEARS OLD."
         290  PRINT "NOW LET'S FIND OUT HOW OLD"
         300  PRINT "YOU'D BE ON THESE PLANETS"
         540  FOR L=1 TO 31
```

Beautiful Stars

Want to see stars? They're right here on your computer screen!

☐ Sample Run

```
WE'RE OUT HERE IN THE COUNTRY, FAR
AWAY FROM HARSH CITY LIGHTS.  THE
SKY IS A DEEP VELVETY BLACK.  YOU
CAN SEE THOUSANDS AND THOUSANDS OF
STARS, EVEN THE VERY FAINT ONES
SHIMMERING IN THE MILKY WAY.  SIT
BACK AND GET READY TO ENJOY THE
BEAUTIFUL DISPLAY, THEN HIT "ENTER"?
                            *
     *
                              *
                                *
       *
          *
          *
       *
                         *
             *
   *
        *
      *
                      *
           *
                              *
     THE STARS ARE ALL OUT TONIGHT
                   *
                      *
                  *
                        *
     AND ISN'T IT A BEAUTIFUL SIGHT?
                       *
                        *
                      *
         *
                       *
                          *
 *
                         *
              *
          *
  *
          *
         *
            *
   *
    *
```

```
                              *
                                *
      *
            *
                                              *
                 *                                      *

            HOW  MANY  PEOPLE  NEAR  THOSE  STARS
                                           *
               *
                                   *
         *
                       *
                                         *
                              *
                           *
                                    *
                  *
                          *
                     *
                                                      *

            ARE  STARING  UP  IN  THE  SKY  AT  US
                                              *
               *
                          *
                                   *
                     *
         *
                           *
                  *
                                                *
         *
                                                      *

            AND  SAYING  HOW  BEAUTIFUL  WE  LOOK?
                                      *
               *
                  *
                    *
                           *
                     *
                                         *
                                    *
                                          *
                  *
                                           *
                  *
                                              *
                                          *
                                          *
                                   *
                                                *

            THE  STARS  ARE  ALL  OUT  TONIGHT
                 *
                          *
      Break
```

☐ Program Listing

```
10 REM BEAUTIFUL STARS
100 PRINT "WE'RE OUT HERE IN THE COUNTRY, FAR"
110 PRINT "AWAY FROM HARSH CITY LIGHTS.  THE"
120 PRINT "SKY IS A DEEP VELVETY BLACK.  YOU"
130 PRINT "CAN SEE THOUSANDS AND THOUSANDS OF"
140 PRINT "STARS, EVEN THE VERY FAINT ONES"
150 PRINT "SHIMMERING IN THE MILKY WAY.  SIT"
160 PRINT "BACK AND GET READY TO ENJOY THE"
170 PRINT "BEAUTIFUL DISPLAY, THEN HIT ";
180 PRINT CHR$(34);"ENTER";CHR$(34);
190 INPUT W$
200 PRINT CHR$(12)
210 A=INT(RND(1)*40)
220 PRINT TAB(A);"*"
230 OLDA=A
240 IF A+OLDA>77 THEN 260
250 GOTO 210
260 S=S+1
270 IF S>5 THEN S=1
280 ON S GOTO 290,310,330,350,370
290 PRINT TAB(6);"THE STARS ARE ALL OUT TONIGHT"
300 GOTO 210
310 PRINT TAB(4);"AND ISN'T IT A BEAUTIFUL SIGHT?"
320 GOTO 210
330 PRINT TAB(4);"HOW MANY PEOPLE NEAR THOSE STARS"
340 GOTO 210
350 PRINT TAB(5);"ARE STARING UP IN THE SKY AT US"
360 GOTO 210
370 PRINT TAB(4);"AND SAYING HOW BEAUTIFUL WE LOOK?"
380 GOTO 210
```

☐ If You Have . . .

APPLE II

```
Change: 180 PRINT CHR$(34);"RETURN";CHR$(34);
        200 HOME
```

ATARI

```
Add: 95 DIM W$(1)
     395 FOR AA=1 TO IDX
     405 PRINT " ";:NEXT AA:RETURN

Change: 180 PRINT CHR$(34);"RETURN";CHR$(34);
        200 PRINT CHR$(125)
        210 A=INT(RND(0)*40)
```

(continued)

```
220 IDX=A:GOSUB 395:PRINT "*"
290 IDX=5:GOSUB 395:PRINT "THE STARS ARE OUT TONIGHT"
310 IDX=3:GOSUB 395:PRINT "AND ISN'T IT A BEAUTIFUL
    SIGHT?"
330 IDX=3:GOSUB 395:PRINT "HOW MANY PEOPLE NEAR
    THOSE STARS"
350 IDX=4:GOSUB 395:PRINT "ARE STARING UP IN THE SKY
    AT US"
370 IDX=3:GOSUB 395:PRINT "AND SAYING HOW BEAUTIFUL
    WE LOOK?"
```

COMMODORE 64

```
Change: 180 PRINT CHR$(34);"RETURN";CHR$(34);
        200 PRINT CHR$(147)
        210 A=INT(RND(0)*40)
```

COMMODORE VIC-20

```
Change: 180 PRINT CHR$(34);"RETURN";CHR$(34)
        200 PRINT CHR$(147)
        210 A=INT(RND(0)*40)
```

TEXAS INSTRUMENTS 99/4A

```
Add: 275 S=1
```

```
Change: 200 CALL CLEAR
        210 A=INT(RND*40)
        270 IF S<=5 THEN 280
```

TRS-80 COLOR COMPUTER

```
Add: 215 FOR I=1 TO 100:NEXT I
```

```
Change: 200 CLS
        210 A=RND(40)
```

Jupiter Stock Exchange

Want to be an interplanetary trader? With this program, you can make a fortune — or lose one! The Jupiter stock market awaits your investment.

☐ Sample Run

```
YOU'RE STUCK ON JUPITER, SO YOU MAY
AS WELL MAKE SOME MONEY WHILE YOU'RE
HERE.  THE JUPITER STOCK EXCHANGE
WILL LET YOU BUY AND SELL STOCKS FOR
FROM 2 TO 52 WEEKS.  HOW MANY WEEKS
WOULD YOU LIKE TO TRY? 8


----------------------------------------
              IT IS NOW WEEK  1
----------------------------------------

YOUR STOCKS ARE NOW WORTH $ 0
YOUR BANK BALANCE IS $ 1000
YOU DON'T OWN ANY STOCKS RIGHT NOW.

*****THE AVAILABLE STOCKS ARE*****

ID #    -------NAME-------      PRICE
  1     MARTIAN GOLDMINES       $ 17
  2     SATURN SILVER           $ 12
  3     PLUTO DIAMONDS LTD      $ 47
  4     LUNAR LASER             $ 102
  5     RIGEL ROCKETS CO        $ 102
  6     PHOTON TORPEDO INC      $ 152
  7     VENUS SPACE SUITS       $ 2
  8     NEPTUNE TRAVEL          $ 202

WILL YOU SELL, BUY, OR QUIT (S,B,Q)? B

WHICH ONE DO YOU WANT TO BUY--
ENTER THE ID NUMBER? 7

VENUS SPACE SUITS SELLS FOR $2
HOW MANY SHARES DO YOU WANT TO BUY? 450


----------------------------------------
              IT IS NOW WEEK  2
----------------------------------------

THE MARKET WENT UP BY 6 POINTS!
YOUR STOCKS ARE NOW WORTH $3600
YOUR BANK BALANCE IS $100
YOU OWN THE FOLLOWING STOCKS:
```

(continued)

```
450 SHARES VENUS SPACE SUITS (#7)

*****THE AVAILABLE STOCKS ARE*****

ID #    -------NAME-------      PRICE
  1     MARTIAN GOLDMINES       $ 23
  2     SATURN SILVER           $ 18
  3     PLUTO DIAMONDS LTD       $ 53
  4     LUNAR LASER             $ 108
  5     RIGEL ROCKETS CO        $ 108
  6     PHOTON TORPEDO INC      $ 158
  7     VENUS SPACE SUITS       $ 8
  8     NEPTUNE TRAVEL          $ 208

WILL YOU SELL, BUY, OR QUIT (S,B,Q)? S

YOU OWN THE FOLLOWING STOCKS:

 450 SHARES VENUS SPACE SUITS (#7)

WHICH ONE DO YOU WANT TO SELL--
ENTER THE ID NUMBER? 7

YOU OWN 450 SHARES OF VENUS SPACE SUITS
HOW MANY SHARES DO YOU WANT TO SELL? 440
```

[There's more — when you get to the end of the program, you'll see something like this:]

```
--------------------------------------
          IT IS NOW WEEK  8
--------------------------------------


THE MARKET WENT DOWN BY 9 POINTS!
YOUR STOCKS ARE NOW WORTH $830
YOUR BANK BALANCE IS $2846
YOU OWN THE FOLLOWING STOCKS:

  5   SHARES SATURN SILVER (#2)
  7   SHARES LUNAR LASER (#4)
  4   SHARES VENUS SPACE SUITS (#7)

*****THE AVAILABLE STOCKS ARE*****

ID #    -------NAME-------      PRICE
  1     MARTIAN GOLDMINES       $ 20
  2     SATURN SILVER           $ 15
  3     PLUTO DIAMONDS LTD       $ 50
  4     LUNAR LASER             $ 105
  5     RIGEL ROCKETS CO        $ 105
  6     PHOTON TORPEDO INC      $ 155
  7     VENUS SPACE SUITS       $ 5
  8     NEPTUNE TRAVEL          $ 205
```

```
WILL YOU SELL, BUY, OR QUIT (S,B,Q)? S

YOU OWN THE FOLLOWING STOCKS:

  5   SHARES SATURN SILVER (#2)
  7   SHARES LUNAR LASER (#4)
  4   SHARES VENUS SPACE SUITS (#7)

WHICH ONE DO YOU WANT TO SELL--
ENTER THE ID NUMBER? 4

YOU OWN 7 SHARES OF LUNAR LASER
HOW MANY SHARES DO YOU WANT TO SELL? 7


YOU STARTED OUT WITH $1000, AND AFTER
9 WEEKS YOU ARE NOW WORTH $4411--

WHAT A TERRIFIC INTERSTELLAR WHEELER-
DEALER YOU ARE!
```

☐ Program Listing

```
10 REM JUPITER STOCK EXCHANGE
100 DIM S(8),P(8)
110 BK=1000
120 FOR G=1 TO 8
130 P(G)=G*5*INT(RND(1)*6)+2
140 NEXT G
150 PRINT "YOU'RE STUCK ON JUPITER, SO YOU MAY"
160 PRINT "AS WELL MAKE SOME MONEY WHILE YOU'RE"
170 PRINT "HERE.  THE JUPITER STOCK EXCHANGE"
180 PRINT "WILL LET YOU BUY AND SELL STOCKS FOR"
190 PRINT "FROM 2 TO 52 WEEKS.  HOW MANY WEEKS"
200 PRINT "WOULD YOU LIKE TO TRY";
210 INPUT WK
220 IF WK<2 OR WK>52 THEN 150
230 RANDOMIZE WK
240 PRINT
250 REM --- MAIN LOOP ---
260 PRINT
270 NW=NW+1
280 IF NW=WK+1 THEN 1360
290 GOSUB 1760
300 PRINT TAB(11);"IT IS NOW WEEK ";NW
310 GOSUB 1760
320 IF NW=1 THEN 520
330 UDR=INT(RND(1)*2)
340 IF UDR=1 THEN 380
350 UDR=-1
360 UD$="DOWN"
370 GOTO 390
```

(continued)

```
380 UD$="UP"
390 AMT=INT(RND(1)*10)
400 IF AMT>0 THEN 430
410 PRINT "THE MARKET IS UNCHANGED."
420 GOTO 470
430 IF AMT>1 THEN 460
440 PRINT "THE MARKET WENT ";UD$;" BY ";AMT;" POINT!"
450 GOTO 470
460 PRINT "THE MARKET WENT ";UD$;" BY ";AMT;" POINTS!"
470 FOR F=1 TO 8
480 P(F)=P(F)+AMT*UDR
490 IF P(F)<2 THEN P(F)=1
500 NEXT F
510 TW=0
520 FOR J=1 TO 8
530 W=S(J)*P(J)
540 TW=TW+W
550 NEXT J
560 PRINT "YOUR STOCKS ARE NOW WORTH $";TW
570 PRINT "YOUR BANK BALANCE IS $";BK
580 GOSUB 1510
590 PRINT "*****THE AVAILABLE STOCKS ARE*****"
600 PRINT
610 PRINT TAB(1);"ID #";TAB(8);"-------NAME-------";
    TAB(30);"PRICE"
620 FOR Z=1 TO 8
630 GOSUB 1260
640 PRINT TAB(1);Z;TAB(8);SN$;TAB(30);"$";P(Z)
650 NEXT Z
660 PRINT
670 PRINT "WILL YOU SELL, BUY, OR QUIT (S,B,Q)";
680 INPUT DC$
690 IF DC$="Q" THEN 1360
700 IF DC$="S" THEN 730
710 IF DC$="B" THEN 1020
720 GOTO 670
730 REM --- SELLING MODULE ---
740 PRINT
750 GOSUB 1510
760 PRINT "WHICH ONE DO YOU WANT TO SELL--"
770 PRINT "ENTER THE ID NUMBER";
780 INPUT R$
790 R=VAL(R$)
800 IF R<1 OR R>8 THEN 760
810 IF S(R)>0 THEN 880
820 Z=R
830 GOSUB 1260
840 PRINT
850 PRINT "YOU DON'T OWN ";SN$;"!"
860 PRINT "TRY AGAIN."
870 GOTO 740
880 Z=R
890 GOSUB 1260
900 PRINT
910 PRINT "YOU OWN ";S(R);" SHARES OF ";SN$
```

```
920  PRINT "HOW MANY SHARES DO YOU WANT TO SELL";
930  INPUT NS
940  IF NS<=S(R) THEN 980
950  PRINT
960  PRINT "YOU DON'T OWN ";NS;" SHARES.   TRY AGAIN!"
970  GOTO 740
980  S(R)=S(R)-NS
990  BK=BK+NS*P(R)
1000 GOTO 260
1010 REM --- BUYING MODULE ---
1020 PRINT
1030 PRINT "WHICH ONE DO YOU WANT TO BUY--"
1040 PRINT "ENTER THE ID NUMBER";
1050 INPUT H$
1060 H=VAL(H$)
1070 IF H<1 OR H>8 THEN 1030
1080 Z=H
1090 GOSUB 1260
1100 PRINT
1110 PRINT SN$;" SELLS FOR $ ";P(H)
1120 PRINT "HOW MANY SHARES DO YOU WANT TO BUY";
1130 INPUT U$
1140 U=VAL(U$)
1150 IF U<1 THEN 1120
1160 IF U*P(H)<=BK THEN 1210
1170 PRINT "SORRY. YOU DON'T HAVE ENOUGH MONEY."
1180 PRINT "TRY AGAIN!"
1190 PRINT
1200 GOTO 590
1210 BK=BK-U*P(H)
1220 S(H)=S(H)+U
1230 GOTO 260
1240 END
1250 REM --- READING SUBROUTINE ---
1260 IF DONE=1 THEN RESTORE
1270 FOR D=1 TO Z
1280 READ SN$
1290 NEXT D
1300 DONE=1
1310 RETURN
1320 DATA MARTIAN GOLDMINES,SATURN SILVER,PLUTO DIAMONDS
     LTD
1330 DATA LUNAR LASER,RIGEL ROCKETS CO,PHOTON TORPEDO INC
1340 DATA VENUS SPACE SUITS,NEPTUNE TRAVEL
1350 REM --- ENDING MODULE ---
1360 PRINT
1370 PRINT "YOU STARTED OUT WITH $ 1000, AND AFTER"
1380 PRINT NW;" WEEKS YOU ARE NOW WORTH $";TW+BK;"--"
1390 PRINT
1400 IF TW+BK<>1000 THEN 1430
1410 PRINT "A LOT OF WORK FOR NOT MUCH REWARD!"
1420 END
1430 IF TW+BK>1000 THEN 1460
1440 PRINT "TOUGH LUCK.   WHY DON'T YOU TRY AGAIN?"
1450 END
```

(continued)

```
1460 PRINT "WHAT A TERRIFIC INTERSTELLAR WHEELER-"
1470 PRINT "DEALER YOU ARE!"
1480 PRINT
1490 END
1500 REM --- PORTFOLIO ---
1510 TEST=0
1520 FOR A=1 TO 8
1530 IF S(A)=0 THEN 1550
1540 TEST=1
1550 NEXT A
1560 IF TEST=1 THEN 1600
1570 PRINT "YOU DON'T OWN ANY STOCKS RIGHT NOW."
1580 PRINT
1590 GOTO 590
1600 PRINT "YOU OWN THE FOLLOWING STOCKS:"
1610 PRINT
1620 FOR B=1 TO 8
1630 IF S(B)=0 THEN 1720
1640 IF S(B)>1 THEN 1690
1650 Z=B
1660 GOSUB 1260
1670 PRINT TAB(1);S(B);" SHARE ";SN$;" (# ";B;")"
1680 GOTO 1720
1690 Z=B
1700 GOSUB 1260
1710 PRINT TAB(1);S(B);" SHARES ";SN$;" (# ";B;")"
1720 NEXT B
1730 PRINT
1740 RETURN
1750 REM --- LINE SUBROUTINE ---
1760 PRINT
1770 FOR L=1 TO 39
1780 PRINT "-";
1790 NEXT L
1800 PRINT
1810 PRINT
1820 RETURN
```

☐ If You Have . . .

APPLE II

Delete: 230

Add: 145 PRINT

Change: 1260 IF DNE=1 THEN RESTORE
        1300 DNE=1

ATARI

Delete: 230

```
Add:    95 DIM UD$(4),SN$(22),DC$(1),R$(1),H$(1),U$(5)
        102 FOR A=1 TO 8:S(A)=0:NEXT A
        105 FOR A=1 TO 8:P(A)=0:NEXT A
        645 IDX=(25-LEN(SN$)):GOSUB 1835:PRINT "$";P(Z)
        1835 FOR AA=1 TO IDX
        1845 PRINT " ";:NEXT AA:RETURN

Change: 130 P(G)=G*5*INT(RND(0)*6)+2
        300 IDX=10:GOSUB 1835:PRINT "IT IS NOW WEEK ";NW
        330 UDR=INT(RND(0)*2)
        390 AMT=INT(RND(0)*10)
        610 PRINT "ID # ";"      ";"------NAME------";
            " PRICE"
        640 PRINT " ";Z;:IDX=5:GOSUB 1835:PRINT SN$;
        1670 PRINT " ";S(B);" SHARE ";SN$;" (# ";B;")"
        1710 PRINT " ";S(B);" SHARES ";SN$;" (# ";B;")"
        1770 FOR L=1 TO 37
```

COMMODORE 64

```
Delete: 230

Change: 130 P(G)=G*5*INT(RND(0)*6)+2
        330 UDR=INT(RND(0)*2)
        390 AMT=INT(RND(0)*10)
        1260 IF DNE=1 THEN RESTORE
        1300 DNE=1
```

COMMODORE VIC-20

```
Delete: 230,240,260,660,730,740,840,900,950,1010,1100,
        1190,1250,1360,1390,1610,1760,1800

Change: 130 P(G)=G*5*INT(RND(0)*6)+2
        200 PRINT "WOULD YOU LIKE TO TRY"
        280 IF NW=WK+1 THEN 1370
        290 GOSUB 1770
        300 PRINT TAB(2);"IT IS NOW WEEK ";NW
        310 GOSUB 1770
        330 UDR=INT(RND(0)*2)
        390 AMT=INT(RND(0)*10)
        590 PRINT "*THE AVAILABLE STOCKS ARE*"
        610 PRINT "ID #";TAB(3);"----NAME----";TAB(16);
            "PRICE"
        640 PRINT Z;TAB(3);SN$;TAB(16);"$";P(Z)
        670 PRINT "WILL YOU SELL, BUY, OR QUIT (S,B,Q)"
        690 IF DC$="Q" THEN 1370
        700 IF DC$="S" THEN 750
        770 PRINT "ENTER THE ID NUMBER"
        870 GOTO 750
        920 PRINT "HOW MANY SHARES DO YOU WANT TO SELL"
        970 GOTO 750
        1000 GOTO 270
        1040 PRINT "ENTER THE ID NUMBER"
```
(continued)

```
1120  PRINT "HOW MANY SHARES DO YOU WANT TO BUY"
1230  GOTO 270
1260  IF DNE=1 THEN RESTORE
1300  DNE=1
1320  DATA MARTIAN GOLD,SATURN MINER,PLUTO GEMS
1330  DATA LUNAR LASER,RIGEL ROCKET,PHOTON INC.
1340  DATA VENUS SUITS,NEPTUNE TOURS
1770  FOR L=1 TO 21
```

TEXAS INSTRUMENTS 99/4A

Add:
```
495  P(F)=1
1265  RESTORE
```

Change:
```
130  P(G)=G*5*INT(RND*6)+2
220  IF (WK<2)+(WK>52) THEN 150
230  RANDOMIZE
300  PRINT TAB(5);"IT IS NOW WEEK ";NW
330  UDR=INT(RND*2)
390  AMT=INT(RND*10)
490  IF P(F)>=2 THEN 500
590  PRINT "**THE AVAILABLE STOCKS ARE**"
610  PRINT "ID #";TAB(5);"-------NAME-------";
     TAB(23);"PRICE"
640  PRINT Z;TAB(5);SN$;TAB(23);"$";P(Z)
800  IF (R<1)+(R>8) THEN 760
1070  IF (H<1)+(H>8) THEN 1030
1260  IF DONE<>1 THEN 1270
1400  IF (TW+BK)<>1000 THEN 1430
1430  IF (TW+BK)>1000 THEN 1460
1770  FOR L=1 TO 28
```

TRS-80 COLOR COMPUTER

Delete: 230,1810

Add:
```
595  PRINT "HIT ENTER TO CONTINUE"
596  INPUT X$
1615  PRINT "HIT ENTER TO SEE"
1616  INPUT X$
```

Change:
```
130  P(G)=G*5*(RND(6)-1)+2
330  UDR=RND(2)
390  AMT=RND(10)-1
590  PRINT
600  PRINT "****THE AVAILABLE STOCKS ARE****"
610  PRINT TAB(1);"ID #";TAB(5);"-------NAME-------";
     TAB(25);"PRICE"
640  PRINT TAB(1);Z;TAB(5);SN$;TAB(25);"$";P(Z)
1760  REM
1770  FOR L=1 TO 31
```

Super Countdown

It's launch time! With this program, your countdown will go as smoothly as the ones at Cape Canaveral.

☐ Sample Run

```
========================================

YOU CAN CHOOSE ANY LETTER (A-Z) OR
NUMBER (0-9) AS A BUILDING BLOCK
TO CREATE THE BIG NUMBERS USED IN
THIS PROGRAM.

========================================

        WHICH LETTER OR NUMBER
        WOULD YOU LIKE TO USE? Z

        THE ROCKET IS ON THE PAD...

        HIT THE ENTER KEY FOR
        THE FINAL COUNTDOWN?

Z   ZZZ
Z Z   Z
Z Z   Z
Z Z   Z
Z   ZZZ


   ZZZ
  Z   Z
   ZZZZ
      Z
   ZZZ


   ZZZ
  Z   Z
   ZZZ
  Z   Z
   ZZZ


  ZZZZZ
      Z
     Z
     Z
     Z
```

continued
(continued)

```
   ZZZ
 Z
 ZZZZ
 Z     Z
   ZZZ


 ZZZZZ
 Z
 ZZZZ
         Z
 ZZZZ


 Z       Z
 Z       Z
 ZZZZZ
         Z
         Z


   ZZZ
 Z       Z
     ZZ
 Z       Z
   ZZZ


   ZZZ
 Z       Z
         Z
   Z
 ZZZZZ


 Z
 Z
 Z
 Z
 Z


   ZZZ
 Z       Z
 Z       Z
 Z       Z
   ZZZ
```

BLASTOFF!
BLASTOFF!
BLASTOFF!
BLASTOFF!
BLASTOFF!
BLASTOFF!
BLASTOFF!
BLASTOFF!
BLASTOFF!

```
=========================================
```

FOR ANOTHER COUNTDOWN, ENTER "C"

TO PUT JUST ONE NUMBER ON THE SCREEN,
ENTER THAT NUMBER (0-10)

YOU'RE NOW USING CHARACTER: Z AS YOUR
BUILDING BLOCK--TO SWITCH THE CHARACTER
THAT MAKES UP THE NUMBERS, ENTER "S"

TO QUIT, ENTER "Q"

```
=========================================
```

   WHAT IS YOUR CHOICE? S

   WHICH LETTER OR NUMBER
   WOULD YOU LIKE TO USE? G

```
=========================================
```

FOR ANOTHER COUNTDOWN, ENTER "C"

TO PUT JUST ONE NUMBER ON THE SCREEN,
ENTER THAT NUMBER (0-10)

YOU'RE NOW USING CHARACTER: G AS YOUR
BUILDING BLOCK--TO SWITCH THE CHARACTER
THAT MAKES UP THE NUMBERS, ENTER "S"

TO QUIT, ENTER "Q"

```
=========================================
```

   WHAT IS YOUR CHOICE? 5

```
  GGGGG
  G
  GGGG
       G
  GGGG
```

```
=========================================
```

FOR ANOTHER COUNTDOWN, ENTER "C"

TO PUT JUST ONE NUMBER ON THE SCREEN,
ENTER THAT NUMBER (0-10)

YOU'RE NOW USING CHARACTER: G AS YOUR
BUILDING BLOCK--TO SWITCH THE CHARACTER
THAT MAKES UP THE NUMBERS, ENTER "S"

TO QUIT, ENTER "Q"

```
=========================================
```

   WHAT IS YOUR CHOICE? Q

☐ Program Listing

```
10 REM SUPER COUNTDOWN
100 S$=CHR$(32)
110 GOSUB 1490
120 PRINT
130 PRINT TAB(8);"THE ROCKET IS ON THE PAD..."
140 PRINT
150 PRINT TAB(8);"HIT THE ENTER KEY FOR"
160 PRINT TAB(8);"THE FINAL COUNTDOWN";
170 INPUT D$
180 PRINT CHR$(12)
190 FOR A=10 TO 0 STEP -1
200 PRINT CHR$(7)
210 ON A+1 GOSUB 1260,630,700,770,840,910,980,1050,1120,
    1190,1340
220 FOR B=1 TO 350
230 NEXT B
240 PRINT CHR$(12)
250 NEXT A
260 FOR C=1 TO 25
270 PRINT
280 NEXT C
290 FOR D=1 TO 25
300 PRINT TAB(10);"BLASTOFF!"
310 NEXT D
320 FOR E=1 TO 25
330 PRINT
340 NEXT E
350 PRINT CHR$(12)
360 GOSUB 1410
370 PRINT "FOR ANOTHER COUNTDOWN, ENTER ";
380 PRINT CHR$(34);"C";CHR$(34)
390 PRINT
400 PRINT "TO PUT JUST ONE NUMBER ON THE SCREEN,"
410 PRINT "ENTER THAT NUMBER (0-10)"
420 PRINT
430 PRINT "YOU'RE NOW USING CHARACTER: ";P$;"  AS YOUR"
440 PRINT "BUILDING BLOCK--TO SWITCH THE CHARACTER"
450 PRINT "THAT MAKES UP THE NUMBERS, ENTER ";CHR$(34);
    "S";CHR$(34)
460 PRINT
470 PRINT "TO QUIT, ENTER ";CHR$(34);"Q";CHR$(34)
480 GOSUB 1410
490 PRINT TAB(8);"WHAT IS YOUR CHOICE";
500 INPUT F$
510 IF F$="" THEN 400
520 IF F$="C" THEN 120
530 IF F$="Q" THEN END
540 IF F$<>"S" THEN 570
550 GOSUB 1490
560 GOTO 350
570 F=VAL(F$)
580 IF F=10 THEN 600
```

```
590 IF ASC(F$)<48 OR ASC(F$)>57 THEN 350
600 PRINT CHR$(12)
610 ON F+1 GOSUB 1260,630,700,770,840,910,980,1050,
    1120,1190,1340
620 GOTO 360
630 REM -- 1 --
640 PRINT S$;P$
650 PRINT S$;P$
660 PRINT S$;P$
670 PRINT S$;P$
680 PRINT S$;P$
690 RETURN
700 REM -- 2 --
710 PRINT S$;S$;P$;P$;P$;S$
720 PRINT S$;P$;S$;S$;S$;P$
730 PRINT S$;S$;S$;S$;P$;S$
740 PRINT S$;S$;P$;S$;S$;S$
750 PRINT S$;P$;P$;P$;P$;P$
760 RETURN
770 REM -- 3 --
780 PRINT S$;S$;P$;P$;P$;S$
790 PRINT S$;P$;S$;S$;S$;P$
800 PRINT S$;S$;S$;P$;P$;S$
810 PRINT S$;P$;S$;S$;S$;P$
820 PRINT S$;S$;P$;P$;P$;S$
830 RETURN
840 REM -- 4 --
850 PRINT S$;P$;S$;S$;S$;P$
860 PRINT S$;P$;S$;S$;S$;P$
870 PRINT S$;P$;P$;P$;P$;P$
880 PRINT S$;S$;S$;S$;S$;P$
890 PRINT S$;S$;S$;S$;S$;P$
900 RETURN
910 REM -- 5 --
920 PRINT S$;P$;P$;P$;P$;P$
930 PRINT S$;P$;S$;S$;S$;S$
940 PRINT S$;P$;P$;P$;P$;S$
950 PRINT S$;S$;S$;S$;S$;P$
960 PRINT S$;P$;P$;P$;P$;S$
970 RETURN
980 REM -- 6 --
990 PRINT S$;S$;P$;P$;P$;S$
1000 PRINT S$;P$;S$;S$;S$;S$
1010 PRINT S$;P$;P$;P$;P$;S$
1020 PRINT S$;P$;S$;S$;S$;P$
1030 PRINT S$;S$;P$;P$;P$;S$
1040 RETURN
1050 REM -- 7 --
1060 PRINT S$;P$;P$;P$;P$;P$
1070 PRINT S$;S$;S$;S$;S$;P$
1080 PRINT S$;S$;S$;S$;P$;S$
1090 PRINT S$;S$;S$;S$;P$;S$
1100 PRINT S$;S$;S$;S$;P$;S$
1110 RETURN
1120 REM -- 8 -
```

```
1130 PRINT S$;S$;P$;P$;P$;S$
1140 PRINT S$;P$;S$;S$;S$;P$
1150 PRINT S$;S$;P$;P$;P$;S$
1160 PRINT S$;P$;S$;S$;S$;P$
1170 PRINT S$;S$;P$;P$;P$;S$
1180 RETURN
1190 REM -- 9 --
1200 PRINT S$;S$;P$;P$;P$;S$
1210 PRINT S$;P$;S$;S$;S$;P$
1220 PRINT S$;S$;P$;P$;P$;P$
1230 PRINT S$;S$;S$;S$;S$;P$
1240 PRINT S$;S$;P$;P$;P$;S$
1250 RETURN
1260 REM -- 0 --
1270 PRINT S$;S$;P$;P$;P$;S$
1280 PRINT S$;P$;S$;S$;S$;P$
1290 PRINT S$;P$;S$;S$;S$;P$
1300 PRINT S$;P$;S$;S$;S$;P$
1310 PRINT S$;S$;P$;P$;P$;S$
1320 RETURN
1330 REM -- 10 --
1340 PRINT P$;S$;S$;P$;P$;P$;S$
1350 PRINT P$;S$;P$;S$;S$;S$;P$
1360 PRINT P$;S$;P$;S$;S$;S$;P$
1370 PRINT P$;S$;P$;S$;S$;S$;P$
1380 PRINT P$;S$;S$;P$;P$;P$;S$
1390 RETURN
1400 REM --- LINE DRAWING SUBROUTINE ---
1410 PRINT
1420 FOR L=1 TO 38
1430 PRINT "=";
1440 NEXT L
1450 PRINT
1460 PRINT
1470 RETURN
1480 REM --- BUILDING BLOCK SUBROUTINE ---
1490 PRINT CHR$(12)
1500 GOSUB 1410
1510 PRINT TAB(2);"YOU CAN CHOOSE ANY LETTER (A-Z) OR"
1520 PRINT TAB(2);"NUMBER (0-9) AS A BUILDING BLOCK"
1530 PRINT TAB(2);"TO CREATE THE BIG NUMBERS USED IN"
1540 PRINT TAB(2);"THIS PROGRAM."
1550 GOSUB 1410
1560 PRINT TAB(8);"WHICH LETTER OR NUMBER"
1570 PRINT TAB(8);"WOULD YOU LIKE TO USE";
1580 INPUT P$
1590 IF P$="" THEN 1490
1600 P$=MID$(P$,1,1)
1610 IF ASC(P$)<48 OR ASC(P$)>90 THEN 1490
1620 PRINT CHR$(12)
1630 RETURN
```

☐ If You Have . . .

APPLE II

Change: 150 PRINT TAB(8);"HIT THE RETURN KEY FOR"
            180 HOME
            240 HOME
            350 HOME
            600 HOME
          1490 HOME
          1620 HOME

ATARI

Add: 95 DIM S$(1),D$(1),P$(1),F$(1)
       1645 FOR AA=1 TO IDX
       1655 PRINT " ";:NEXT AA:RETURN

Change: 130 IDX=7:GOSUB 1645:PRINT "THE ROCKET IS ON THE
                   PAD..."
          150 GOSUB 1645:PRINT "HIT THE RETURN KEY FOR"
          160 GOSUB 1645:PRINT "THE FINAL COUNTDOWN";
          180 PRINT CHR$(125)
          200 PRINT CHR$(253)
          240 PRINT CHR$(125)
          300 IDX=9:GOSUB 1645:PRINT "BLASTOFF!"
          350 PRINT CHR$(125)
          490 IDX=7:GOSUB 1645:PRINT "WHAT IS YOUR CHOICE";
          600 PRINT CHR$(125)
         1420 FOR L=1 TO 37
         1490 PRINT CHR$(125)
         1510 PRINT " ";"YOU CAN CHOOSE ANY LETTER (A-Z) OR"
         1520 PRINT " ";"NUMBER (1-9) AS A BUILDING BLOCK"
         1530 PRINT " ";"TO CREATE THE BIG NUMBERS USED IN"
         1540 PRINT " ";"THIS PROGRAM."
         1560 IDX=7:GOSUB 1645:PRINT "WHICH LETTER OR NUMBER"
         1570 GOSUB 1645:PRINT "WOULD YOU LIKE TO USE";
         1600 P$=P$(1,1)
         1620 PRINT CHR$(125)

COMMODORE 64

Change: 150 PRINT TAB(8);"HIT THE RETURN KEY FOR"
          180 PRINT CHR$(147)
          240 PRINT CHR$(147)
          350 PRINT CHR$(147)
          600 PRINT CHR$(147)
        1490 PRINT CHR$(147)
        1620 PRINT CHR$(147)

COMMODORE VIC-20

```
Change:  150 PRINT TAB(8);"HIT THE RETURN KEY FOR"
         160 PRINT TAB(8);"THE FINAL COUNTDOWN"
         180 PRINT CHR$(147)
         240 PRINT CHR$(147)
         350 PRINT CHR$(147)
         490 PRINT TAB(8);"WHAT IS YOUR CHOICE"
         600 PRINT CHR$(147)
        1420 FOR L=1 TO 21
        1490 PRINT CHR$(147)
        1570 PRINT TAB(8);"WOULD YOU LIKE TO USE"
        1620 PRINT CHR$(147)
```

TEXAS INSTRUMENTS 99/4A

```
   Add:  214 FOR SP=1 TO 6
         215 PRINT
         216 NEXT SP
         535 END
```

```
Change:  180 CALL CLEAR
         200 CALL SOUND(100,440,3)
         240 CALL CLEAR
         350 CALL CLEAR
         530 IF F$<>"Q" THEN 540
         590 IF (ASC(F$)<48)+(ASC(F$)>57) THEN 350
         600 CALL CLEAR
        1420 FOR L=1 TO 28
        1490 CALL CLEAR
        1600 P$=SEG$(Y$,1,1)
        1610 IF (ASC(P$)<48)+(ASC(P$)>90) THEN 1490
        1620 CALL CLEAR
```

TRS-80 COLOR COMPUTER

```
Delete:  390,420,460,1460
```

```
   Add:  615 PRINT "HIT ENTER TO CONTINUE"
         616 INPUT X$
```

```
Change:  180 CLS
         200 SOUND 173,3
         240 CLS
         350 CLS
         600 CLS
        1410 REM
        1420 FOR L=1 TO 31
        1490 CLS
        1620 CLS
```

Far, Far Away

When you're flying through space, you can't stop to get a map at a gas station — but you don't need to! When you want to find out how far a planet is from the sun, you simply consult your onboard computer. It's just like the one you have at home!

☐ Sample Run

```
        1   MERCURY
        2   VENUS
        3   EARTH
        4   MARS
        5   JUPITER
        6   SATURN
        7   URANUS
        8   NEPTUNE
        9   PLUTO

WHICH PLANET IS 93 MILLION MILES
FROM THE SUN? 3

RIGHT!

WHICH PLANET IS 142 MILLION MILES
FROM THE SUN? 4

RIGHT!

WHICH PLANET IS 3675 MILLION MILES
FROM THE SUN? 1

SORRY--THE ANSWER IS NOT MERCURY!
```

[There's more — when you get to the end of the program, you'll see something like this:]

```
WHICH PLANET IS 484 MILLION MILES
FROM THE SUN? 5

RIGHT!

IT TOOK YOU 12 TRIES TO GET THEM ALL--
WANT TO TRY AGAIN? NO
```

□ Program Listing

```
10 REM FAR, FAR AWAY
100 DIM M(9),A(9)
110 K=1
120 T=T+1
130 GOSUB 430
140 PRINT
150 PRINT "WHICH PLANET IS ";M(K);" MILLION MILES"
160 PRINT "FROM THE SUN";
170 INPUT Q
180 PRINT
190 IF Q<1 OR Q>9 THEN 150
200 IF Q<>A(K) THEN 260
210 PRINT "RIGHT!"
220 PRINT
230 K=K+1
240 IF K=10 THEN 340
250 GOTO 120
260 PRINT "SORRY--THE ANSWER IS NOT ";
270 FOR C=1 TO Q
280 READ P$
290 NEXT C
300 RESTORE
310 PRINT P$;"!"
320 PRINT
330 GOTO 120
340 PRINT
350 PRINT "IT TOOK YOU ";T;" TRIES TO GET THEM ALL--"
360 PRINT "WANT TO TRY AGAIN";
370 INPUT Y$
380 IF MID$(Y$,1,1)="N" THEN END
390 T=0
400 PRINT
410 GOTO 110
420 REM --- READING SUBROUTINE ---
430 FOR A=1 TO 9
440 READ P$
450 PRINT TAB(5);A;TAB(10);P$
460 NEXT A
470 FOR B=1 TO 9
480 READ M(B),A(B)
490 NEXT B
500 RESTORE
510 RETURN
520 DATA MERCURY,VENUS,EARTH
530 DATA MARS,JUPITER,SATURN
540 DATA URANUS,NEPTUNE,PLUTO
550 DATA 93,3,142,4,3675,9
560 DATA 1784,7,67,2,887,6
570 DATA 36,1,2795,8,484,5
```

□ If You Have . . .

APPLE II   No Changes Required

ATARI

```
Add:    95 DIM P$(7),Y$(3)
       485 M(B)=MB:A(B)=AB
       585 FOR AA=1 TO IDX
       595 PRINT " ";:NEXT AA:RETURN

Change: 380 IF Y$(1,1)="N" THEN END
        450 IDX=4:GOSUB 585:PRINT A;:GOSUB 585:PRINT P$
        480 READ MB,AB
```

COMMODORE 64   No Changes Required

COMMODORE VIC-20

```
Change: 160 PRINT "FROM THE SUN"
        360 PRINT "WANT TO TRY AGAIN"
```

TEXAS INSTRUMENTS 99/4A

```
Add:   385 END

Change: 190 IF (Q<1)+(Q>9) THEN 150
        380 IF SEG$(Y$,1,1)<>"N" THEN 390
        430 FOR AA=1 TO 9
        450 PRINT TAB(5);AA;TAB(10);P$
        460 NEXT AA
```

TRS-80 COLOR COMPUTER   No Changes Required

Shape Invaders

On the planet of polygons, you have to use your computer to stay alive. The computer usually works just fine — it's the human who sometimes has a screw loose. Even on the planet Earth, you may find this program handy when you need to figure the area of a polygon.

☐ Sample Run

```
========================================
        MATHEMATICAL TRAVEL AGENCY
========================================
TOURS TO STRANGE PLACES OUR SPECIALTY
========================================
TODAY'S CHARTER FLIGHT TO THE PLANET
OF POLYGONS LEAVES IN...ONE MINUTE...
YOU'D BETTER HURRY--AND DON'T FORGET
YOUR TOOTHBRUSH!  HIT THE ENTER KEY
TO HAVE YOUR PASSPORT STAMPED?
========================================

        PLANET OF POLYGONS
       AIRPORT PASSPORT OFFICE


========================================
  APPROVAL GRANTED FOR TEMPORARY VISIT
========================================

WARNING TO ALL FOREIGN VISITORS--BE
ALERT FOR MYSTERIOUS SHAPE MONSTERS
THAT HAVE BEEN EATING TRAVELERS LIKE
CANDY.  THE ONLY WAY TO AVOID BEING
TURNED INTO LUNCH FOR ONE IS TO FIGURE
OUT THE MONSTER'S AREA.  BE CAREFUL!

HIT THE ENTER KEY TO CONTINUE?

ONE RULE--DON'T MIX MEASUREMENTS!
IF YOU ENTER FEET FOR ONE SIDE OF
A RECTANGLE, DON'T USE INCHES FOR
THE OTHER SIDE!

HERE COMES A MONSTER! IT'S A STRANGE
SHAPE, BUT YOU CAN'T TELL EXACTLY
WHICH FROM HERE.  GUESS WHICH SHAPE
THE MONSTER IS. YOUR COMPUTER WILL
DO THE REST!
```

```
1    TRIANGLE
2    SQUARE
3    TRAPEZOID
4    RECTANGLE
5    REGULAR PENTAGON
6    REGULAR HEXAGON
7    REGULAR OCTAGON
8    CIRCLE
```

WHICH SHAPE IS THE MONSTER? 6

ENTER THE LENGTH OF ONE SIDE? 560 MILES

THE AREA OF A REGULAR HEXAGON WITH
EACH SIDE MEASURING 560 MILES IS
814732.8 MILES

```
=========================================
YOU DIDN'T GUESS THE SHAPE, BUT AT
LEAST THE CALCULATION WAS RIGHT.  TRY
ONE MORE TIME BEFORE YOU BECOME LUNCH.
=========================================
```

```
1    TRIANGLE
2    SQUARE
3    TRAPEZOID
4    RECTANGLE
5    REGULAR PENTAGON
6    REGULAR HEXAGON
7    REGULAR OCTAGON
8    CIRCLE
```

WHICH SHAPE IS THE MONSTER? 3

ENTER THE HEIGHT OF THE TRAPEZOID? 500 YARDS
ENTER THE LENGTH OF THE LONGER PARALLEL
SIDE? 900 YARDS
ENTER THE LENGTH OF THE SHORTER
OF THE SHORTER PARALLEL SIDE? 350 YARDS

THE AREA OF A TRAPEZOID OF HEIGHT 500 YARDS
WITH THE LONGER PARALLEL SIDE MEASURING
900 YARDS AND THE SHORTER PARALLEL SIDE
MEASURING 350 YARDS IS 312500 YARDS

```
=========================================
TERRIFIC!! YOU GUESSED THE SHAPE OF
THE MONSTER AND CALCULATED ITS AREA
PROPERLY!!
=========================================
```

DO YOU WANT TO TRY ANOTHER? NO

☐ Program Listing

```
10 REM SHAPE INVADERS
100 PRINT CHR$(12)
110 GOSUB 1950
120 PRINT TAB(6);"MATHEMATICAL TRAVEL AGENCY"
130 GOSUB 1950
140 PRINT "TOURS TO STRANGE PLACES OUR SPACIALTY"
150 GOSUB 1950
160 PRINT "TODAY'S CHARTER FLIGHT TO THE PLANET"
170 PRINT "OF POLYGONS LEAVES IN...ONE MINUTE..."
180 PRINT "YOU'D BETTER HURRY--AND DON'T FORGET"
190 PRINT "YOUR TOOTHBRUSH!  HIT THE ENTER KEY"
200 PRINT "TO HAVE YOUR PASSPORT STAMPED";
210 INPUT W$
220 PRINT CHR$(12)
230 GOSUB 1950
240 PRINT
250 PRINT TAB(9);"PLANET OF POLYGONS"
260 PRINT TAB(7);"AIRPORT PASSPORT OFFICE"
270 PRINT
280 GOSUB 1950
290 PRINT " APPROVAL GRANTED FOR TEMPORARY VISIT"
300 GOSUB 1950
310 PRINT
320 PRINT
330 PRINT "WARNING TO ALL FOREIGN VISITORS--BE"
340 PRINT "ALERT FOR MYSTERIOUS SHAPE MONSTERS"
350 PRINT "THAT HAVE BEEN EATING TRAVELERS LIKE"
360 PRINT "CANDY.  THE ONLY WAY TO AVOID BEING"
370 PRINT "TURNED INTO LUNCH FOR ONE IS TO FIGURE"
380 PRINT "OUT THE MONSTER'S AREA.  BE CAREFUL!"
390 PRINT
400 PRINT "HIT THE ENTER KEY TO CONTINUE";
410 INPUT W$
420 PRINT CHR$(12)
430 PRINT
440 PRINT "ONE RULE--DON'T MIX MEASUREMENTS!"
450 PRINT "IF YOU ENTER FEET FOR ONE SIDE OF"
460 PRINT "A RECTANGLE, DON'T USE INCHES FOR"
470 PRINT "THE OTHER SIDE!"
480 Z=INT(RND(1)*8)+1
490 PRINT
500 PRINT "HERE COMES A MONSTER! IT'S A STRANGE"
510 PRINT "SHAPE, BUT YOU CAN'T TELL EXACTLY"
520 PRINT "WHICH FROM HERE.  GUESS WHICH SHAPE"
530 PRINT "THE MONSTER IS. YOUR COMPUTER WILL"
540 PRINT "DO THE REST!"
550 PRINT
560 PRINT TAB(2);"1";TAB(7);"TRIANGLE"
570 PRINT TAB(2);"2";TAB(7);"SQUARE"
580 PRINT TAB(2);"3";TAB(7);"TRAPEZOID"
590 PRINT TAB(2);"4";TAB(7);"RECTANGLE"
600 PRINT TAB(2);"5";TAB(7);"REGULAR PENTAGON"
```

```
610  PRINT TAB(2);"6";TAB(7);"REGULAR HEXAGON"
620  PRINT TAB(2);"7";TAB(7);"REGULAR OCTAGON"
630  PRINT TAB(2);"8";TAB(7);"CIRCLE"
640  PRINT
650  PRINT "WHICH SHAPE IS THE MONSTER";
660  INPUT T
670  PRINT
680  ON T GOTO 700,860,920,1160,1320,1380,1440,1500
690  GOTO 650
700  PRINT "ENTER THE LENGTH OF THE BASE";
710  INPUT C$
720  GOSUB 1850
730  B=C
740  M$=D$
750  IF B<=0 THEN 700
760  PRINT "ENTER THE HEIGHT";
770  INPUT C$
780  GOSUB 1850
790  H=C
800  IF H<=0 THEN 760
810  PRINT
820  PRINT "THE AREA OF A TRIANGLE WITH A BASE"
830  PRINT "OF ";B;" ";M$;" AND A HEIGHT OF ";H;" ";M$
840  PRINT "IS ";B*H/2;" ";M$
850  GOTO 1590
860  GOSUB 1780
870  IF S<=0 THEN 860
880  PRINT
890  PRINT "THE AREA OF A SQUARE WITH EACH SIDE"
900  PRINT "MEASURING ";S;" ";M$;" IS ";S*S;" ";M$
910  GOTO 1590
920  PRINT "ENTER THE HEIGHT OF THE TRAPEZOID";
930  INPUT C$
940  GOSUB 1850
950  H=C
960  M$=D$
970  IF H<=0 THEN 920
980  PRINT "ENTER THE LENGTH OF THE LONGER PARALLEL"
990  PRINT "SIDE";
1000 INPUT C$
1010 GOSUB 1850
1020 L=C
1030 IF L<=0 THEN 980
1040 PRINT "ENTER THE LENGTH OF THE SHORTER"
1050 PRINT "OF THE SHORTER PARALLEL SIDE";
1060 INPUT C$
1070 GOSUB 1850
1080 S=C
1090 IF S<=0 THEN 1040
1100 PRINT
1110 PRINT "THE AREA OF A TRAPEZOID OF HEIGHT";H;" ";M$
1120 PRINT "WITH THE LONGER PARALLEL SIDE MEASURING"
1130 PRINT L;" ";M$;" AND THE SHORTER PARALLEL SIDE"
1140 PRINT "MEASURING ";S;" ";M$;" IS ";(H*(L+S))/2;" ";
     M$
```

```
1150 GOTO 1590
1160 PRINT "ENTER THE LENGTH OF THE BASE";
1170 INPUT C$
1180 GOSUB 1850
1190 B=C
1200 M$=D$
1210 IF B<=0 THEN 1160
1220 PRINT "ENTER THE HEIGHT";
1230 INPUT C$
1240 GOSUB 1850
1250 H=C
1260 IF H<=0 THEN 1220
1270 PRINT
1280 PRINT "THE AREA OF A RECTANGLE WITH A BASE"
1290 PRINT "MEASURING ";B;" ";M$;" AND A HEIGHT"
1300 PRINT "OF ";H;" ";M$;" ";"IS ";B*H;" ";M$
1310 GOTO 1590
1320 GOSUB 1780
1330 IF S<=0 THEN 1320
1340 PRINT
1350 PRINT "THE AREA OF A REGULAR PENTAGON WITH"
1360 PRINT "EACH SIDE MEASURING ";S;" ";M$;" IS ";
     1.72*S*S;" ";M$
1370 GOTO 1590
1380 GOSUB 1780
1390 IF S<=0 THEN 1380
1400 PRINT
1410 PRINT "THE AREA OF A REGULAR HEXAGON WITH"
1420 PRINT "EACH SIDE MEASURING ";S;" ";M$;" IS ";
     2.598*S*S;" ";M$
1430 GOTO 1590
1440 GOSUB 1780
1450 IF S<=0 THEN 1440
1460 PRINT
1470 PRINT "THE AREA OF A REGULAR OCTAGON WITH"
1480 PRINT "EACH SIDE MEASURING ";S;" ";M$;" IS ";
     4.828*S*S;" ";M$
1490 GOTO 1590
1500 PRINT "ENTER THE LENGTH OF THE RADIUS";
1510 INPUT C$
1520 GOSUB 1850
1530 R=C
1540 M$=D$
1550 IF R<=0 THEN 1500
1560 PRINT
1570 PRINT "THE AREA OF A CIRCLE WITH A RADIUS OF"
1580 PRINT R;" ";M$;" IS ";3.1416*R*R;" ";M$
1590 PRINT
1600 IF T=Z THEN 1670
1610 GOSUB 1950
1620 PRINT "YOU DIDN'T GUESS THE SHAPE, BUT AT"
1630 PRINT "LEAST THE CALCULATION WAS RIGHT.  TRY"
1640 PRINT "ONE MORE TIME BEFORE YOU BECOME LUNCH."
1650 GOSUB 1950
1660 GOTO 550
```

```
1670 GOSUB 1950
1680 PRINT "TERRIFIC!! YOU GUESSED THE SHAPE OF"
1690 PRINT "THE MONSTER AND CALCULATED ITS AREA"
1700 PRINT "PROPERLY!!"
1710 GOSUB 1950
1720 PRINT
1730 PRINT "DO YOU WANT TO TRY ANOTHER";
1740 INPUT Y$
1750 IF MID$(Y$,1,1)<>"N" THEN 480
1760 END
1770 REM --- SIDE ENTERING SUBROUTINE ---
1780 PRINT "ENTER THE LENGTH OF ONE SIDE";
1790 INPUT C$
1800 GOSUB 1850
1810 S=C
1820 M$=D$
1830 RETURN
1840 REM --- TESTING SUBROUTINE ---
1850 D$=""
1860 FOR Z=1 TO LEN(C$)
1870 IF ASC(MID$(C$,Z,1))>57 THEN 1910
1880 NEXT Z
1890 C=VAL(C$)
1900 GOTO 1930
1910 C=VAL(MID$(C$,1,Z))
1920 D$=MID$(C$,Z,LEN(C$)-Z+1)
1930 RETURN
1940 REM --- LINE SUBROUTINE
1950 FOR V=1 TO 38
1960 PRINT "=";
1970 NEXT V
1980 PRINT
1990 RETURN
```

☐ If You Have . . .

APPLE II

Change:
```
        100 HOME
        190 PRINT "YOUR TOOTHBRUSH!  HIT THE RETURN KEY"
        220 HOME
        400 PRINT "HIT THE RETURN KEY TO CONTINUE";
        420 HOME
```

ATARI

Add:
```
        95 DIM W$(1),M$(7),D$(7),C$(2),Y$(3)
        1995 FOR AA=1 TO IDX
        1997 PRINT " ";:NEXT AA:RETURN
```

Change:
```
        100 PRINT CHR$(125)
```

(continued)

```
190 PRINT "YOUR TOOTHBRUSH!  HIT THE RETURN KEY"
220 PRINT CHR$(125)
250 IDX=8:GOSUB 1995:PRINT "PLANET OF POLYGONS"
260 IDX=6:GOSUB 1995:PRINT "AIRPORT PASSPORT
    OFFICE"
400 PRINT "HIT THE RETURN KEY TO CONTINUE";
420 PRINT CHR$(125)
480 Z=INT(RND(0)*8)+1
560 PRINT " ";"1";:IDX=4:GOSUB 1995:PRINT
    "TRIANGLE"
570 PRINT " ";"2";:GOSUB 1995:PRINT "SQUARE"
580 PRINT " ";"3";:GOSUB 1995:PRINT "TRAPEZOID"
590 PRINT " ";"4";:GOSUB 1995:PRINT "RECTANGLE"
600 PRINT " ";"5";:GOSUB 1995:PRINT "REGULAR
    PENTAGON"
610 PRINT " ";"6";:GOSUB 1995:PRINT "REGULAR
    HEXAGON"
620 PRINT " ";"7";:GOSUB 1995:PRINT "REGULAR
    OCTAGON"
630 PRINT " ";"8";:GOSUB 1995:PRINT "CIRCLE"
1750 IF Y$(1,1)<>"N" THEN 480
1870 IF ASC(C$(Z,Z))>57 THEN 1910
1910 C=VAL(C$(1,Z))
1920 D$=C$(Z,LEN(C$))
1950 FOR V=1 TO 37
```

COMMODORE 64

```
Change: 100 PRINT CHR$(147)
        190 PRINT "YOUR TOOTHBRUSH!  HIT THE RETURN KEY"
        220 PRINT CHR$(147)
        400 PRINT "HIT THE RETURN KEY TO CONTINUE";
        420 PRINT CHR$(147)
```

COMMODORE VIC-20   Program Will Not Run on Unexpanded VIC-20

TEXAS INSTRUMENTS 99/4A

```
Add:    552 PRINT "HIT ENTER KEY TO CONTINUE"
        554 INPUT DU$
        556 CALL CLEAR

Change: 100 CALL CLEAR
        220 CALL CLEAR
        420 CALL CLEAR
        480 Z=INT(RND*8)+1
        1750 IF SEG$(Y$,1,1)<>"N" THEN 480
        1870 IF ASC(SEG$(C$,Z,1))>57 THEN 1910
        1910 C=VAL(SEG$(C$,1,Z))
        1920 D$=SEG$(C$,Z,LEN(C$)-Z+1)
        1950 FOR V=1 TO 28
```

TRS-80 COLOR COMPUTER

Delete: 390,490

Add: 325 INPUT X$
      497 PRINT "HIT THE ENTER KEY TO CONTINUE"
      498 INPUT X$
      499 PRINT

Change: 100 CLS
         220 CLS
         320 PRINT "HIT THE ENTER KEY TO CONTINUE"
         420 CLS
         460 PRINT "A RECTANGLE, DON'T USE INCHES"
         470 PRINT "FOR THE OTHER SIDE"
         480 Z=RND(8)
         1130 PRINT L;" ";M$;" AND THE SHORTER PARALLEL"
         1140 PRINT "SIDE MEASURING ";S;" ";M$;" IS ";
              (H*(L+S))/2;" ";M$
         1950 FOR V=1 TO 31

Star Bright

If you're going to use a star to help guide your spacecraft home, you'd better pick a bright one. You'll find all the brightest stars right here.

☐ Sample Run

```
THERE ARE APPROXIMATELY 100 BILLION
STARS IN OUR OWN GALAXY, THE MILKY WAY.
CAN YOU RANK THE 15 THAT ARE BRIGHTEST
TO OBSERVERS ON EARTH?

HOW MANY STARS DO YOU THINK YOU CAN SEE
AT NIGHT? 100000
                 COUNTING THE STARS...

                 6.666667  BILLION ...
                 13.33333  BILLION ...
                 20 BILLION ...
                 26.66667  BILLION ...
                 33.33334  BILLION ...
                 40   BILLION ...
                 46.66667  BILLION ...
                 53.33334  BILLION ...
                 60   BILLION ...
                 66.66667  BILLION ...
                 73.33334  BILLION ...
                 80   BILLION ...
                 86.66667  BILLION ...
                 93.33334  BILLION ...
                 100  BILLION ...

                       NOW

                 RANKING THE STARS

          ---- STAR ----   #  -- RANK ----

                   POLLUX  1
                  CAPELLA  2
                   SIRIUS  3
                    RIGEL  4
                ALDEBARAN  5
                 ACHERNAR  6
           BETA CENTAURI  7
                  PROCYON  8
                 ARCTURUS  9
                     VEGA  10
                  CANOPUS  11
                   ALTAIR  12
          ALPHA CENTAURI  13
                    SPICA  14
               BETELGEUSE  15
```

```
TRY TO ARRANGE THESE 15 STARS IN
THE ORDER OF THEIR BRIGHTNESS.

WHICH STAR RANKS # 1 IN BRIGHTNESS? 3
RIGHT! SIRIUS IS RANKED # 1
HIT THE ENTER KEY TO CONTINUE?

TRY TO ARRANGE THESE 15 STARS IN
THE ORDER OF THEIR BRIGHTNESS.

WHICH STAR RANKS # 2 IN BRIGHTNESS? 11
RIGHT! CANOPUS IS RANKED # 2
HIT THE ENTER KEY TO CONTINUE

TRY TO ARRANGE THESE 15 STARS IN
THE ORDER OF THEIR BRIGHTNESS.

WHICH STAR RANKS # 3 IN BRIGHTNESS? 7
NO, BETA CENTAURI IS NOT RANKED # 3
HIT THE ENTER KEY TO CONTINUE?
```

[There's more — when you get to the end of the program, you'll see something like this:]

```
TRY TO ARRANGE THESE 15 STARS IN
THE ORDER OF THEIR BRIGHTNESS.

WHICH STAR RANKS # 15 IN BRIGHTNESS? 1
RIGHT! POLLUX IS RANKED # 15
HIT THE ENTER KEY TO CONTINUE?

CONGRATULATIONS!!  YOU GOT THEM ALL!!
AND IT TOOK YOU ONLY 24 TRIES!!

WANT TO TRY AGAIN? NO
```

☐ Program Listing

```
10 REM STAR BRIGHT
100 PRINT
110 PRINT "THERE ARE APPROXIMATELY 100 BILLION"
120 PRINT "STARS IN OUR OWN GALAXY, THE MILKY WAY."
130 PRINT "CAN YOU RANK THE 15 THAT ARE BRIGHTEST"
140 PRINT "TO OBSERVERS ON EARTH?"
150 PRINT
160 PRINT "HOW MANY STARS DO YOU THINK YOU CAN SEE"
170 PRINT "AT NIGHT";
180 INPUT D
190 IF D<1 THEN 160
200 IF D>30000 THEN D=500
210 RANDOMIZE D
220 Q$="SRATSEHTGNIKNAR"
230 PRINT
240 DIM RD(15),N(15,14)
```

(continued)

```
250 F=0
260 R=0
270 PRINT TAB(13);"COUNTING THE STARS..."
280 PRINT
290 FOR D=1 TO 15
300 RD(D)=INT((RND(1)*15)+1)
310 FOR E=1 TO D-1
320 IF RD(D)=RD(E) THEN 300
330 NEXT E
340 PRINT TAB(12);E*6.666667;" BILLION ..."
350 NEXT D
360 PRINT CHR$(12)
370 GOSUB 900
380 R=R+1
390 IF R=16 THEN 800
400 PRINT CHR$(12)
410 PRINT TAB(6);"---- STAR ----   #   -- RANK ----"
420 F=F+1
430 PRINT
440 GOSUB 1080
450 PRINT
460 PRINT "TRY TO ARRANGE THESE 15 STARS IN"
470 PRINT "THE ORDER OF THEIR BRIGHTNESS."
480 PRINT
490 PRINT "WHICH STAR RANKS #";R;" IN BRIGHTNESS";
500 INPUT G
510 IF G>0 AND G<16 THEN 570
520 PRINT
530 PRINT "YOUR CHOICES ARE ONLY 1 THROUGH 15!"
540 PRINT "HIT THE ENTER KEY TO CONTINUE";
550 INPUT X$
560 GOTO 400
570 IF RD(G)=R THEN 690
580 PRINT "NO, ";
590 FOR M=1 TO 14
600 IF N(RD(G),M)<>32 THEN 620
610 PRINT CHR$(32);
620 IF N(RD(G),M)<65 THEN 640
630 PRINT CHR$(N(RD(G),M));
640 NEXT M
650 PRINT " IS NOT RANKED #";R
660 PRINT "HIT THE ENTER KEY TO CONTINUE";
670 INPUT X$
680 GOTO 400
690 PRINT "RIGHT! ";
700 FOR W=1 TO 14
710 IF N(RD(G),W)<>32 THEN 730
720 PRINT CHR$(32);
730 IF N(RD(G),W)<65 THEN 750
740 PRINT CHR$(N(RD(G),W));
750 NEXT W
760 PRINT " IS RANKED #";R
770 PRINT "HIT THE ENTER KEY TO CONTINUE";
780 INPUT D$
790 GOTO 380
```

```
800  PRINT
810  PRINT "CONGRATULATIONS!!  YOU GOT THEM ALL!!"
820  PRINT "AND IT TOOK YOU ONLY ";F;" TRIES!!"
830  PRINT
840  PRINT "WANT TO TRY AGAIN";
850  INPUT Y$
860  IF MID$(Y$,1,1)="N" THEN END
870  RESTORE
880  GOTO 250
890  REM --- DECIPHER SUBROUTINE ---
900  FOR U=1 TO 8
910  PRINT
920  NEXT U
930  PRINT TAB(18);"NOW"
940  PRINT
950  PRINT TAB(12);
960  FOR A=1 TO 15
970  PRINT MID$(Q$,16-A,1);
980  IF A=7 OR A=10 THEN PRINT CHR$(32);
990  FOR B=1 TO 14
1000 READ C
1010 IF C=32 THEN 1030
1020 IF C<65 THEN 1040
1030 N(A,B)=C
1040 NEXT B
1050 NEXT A
1060 RETURN
1070 REM --- DISPLAY SUBROUTINE ---
1080 FOR J=1 TO 15
1090 PRINT TAB(6);
1100 FOR K=1 TO 14
1110 PRINT CHR$(N(RD(J),K));
1120 NEXT K
1130 PRINT CHR$(32);
1140 IF RD(J)=>R THEN 1170
1150 PRINT J;TAB(27);RD(J)
1160 GOTO 1180
1170 PRINT J
1180 NEXT J
1190 RETURN
1200 DATA 52,43,56,61,47,42,57,59,83,73,82,73,85,83
1210 DATA 48,41,52,47,61,45,53,67,65,78,79,80,85,83
1220 DATA 65,76,80,72,65,32,67,69,78,84,65,85,82,73
1230 DATA 63,57,43,54,52,61,45,53,63,51,86,69,71,65
1240 DATA 57,61,43,47,53,52,63,67,65,80,69,76,76,65
1250 DATA 63,59,62,45,49,52,65,82,67,84,85,82,85,83
1260 DATA 57,61,43,47,52,55,61,53,60,82,73,71,69,76
1270 DATA 60,63,57,51,43,45,44,80,82,79,67,89,79,78
1280 DATA 59,45,61,55,41,44,65,67,72,69,82,78,65,82
1290 DATA 60,66,69,84,65,32,67,69,78,84,65,85,82,73
1300 DATA 57,53,55,61,45,47,45,53,65,76,84,65,73,82
1310 DATA 60,57,52,48,66,69,84,69,76,71,69,85,83,69
1320 DATA 58,53,55,47,61,65,76,68,69,66,65,82,65,78
1330 DATA 60,62,45,56,60,45,43,61,53,83,80,73,67,65
1340 DATA 54,46,48,46,54,61,55,44,80,79,76,76,85,88
```

☐ If You Have . . .

APPLE II

Delete: 210

Add: 305 IF D=1 THEN E=1:GOTO 340

Change: 360 HOME
400 HOME
540 PRINT "HIT THE RETURN KEY TO CONTINUE";
660 PRINT "HIT THE RETURN KEY TO CONTINUE";
770 PRINT "HIT THE RETURN KEY TO CONTINUE";
1150 PRINT TAB(21);J;TAB(27);RD(J)
1170 PRINT TAB(21);J

ATARI

Delete: 210

Add: 95 DIM X$(1),Q$(17),Y$(3),D$(1)
245 FOR A=1 TO 15:RD(A)=0
246 FOR B=1 TO 14:N(A,B)=0:NEXT B:NEXT A
315 IF D=1 THEN 330
335 AE=-1E-06:AX=INT(D/3):AE=AE*AX
1145 DX=6:IF J>9 THEN DX=5
1355 FOR AA=1 TO IDX
1365 PRINT " ";:NEXT AA:RETURN

Change: 270 IDX=12:GOSUB 1355:PRINT "COUNTING THE STARS..."
300 RD(D)=INT((RND(0)*15)+1)
340 IDX=11:GOSUB 1355:PRINT E*6.666667+AE;"
BILLION..."
360 PRINT CHR$(125)
400 PRINT CHR$(125)
410 IDX=5:GOSUB 1355:PRINT "--- STAR ----   #   --
RANK ----"
540 PRINT "HIT THE RETURN KEY TO CONTINUE";
660 PRINT "HIT THE RETURN KEY TO CONTINUE";
770 PRINT "HIT THE RETURN KEY TO CONTINUE";
860 IF Y$(1,1)="N" THEN END
930 IDX=17:GOSUB 1355:PRINT "NOW"
950 IDX=11:GOSUB 1355
970 PRINT Q$(16-A,16-A);
1090 IDX=5:GOSUB 1355
1140 IF RD(J)>=R THEN 1170
1150 PRINT J;:IDX=DX:GOSUB 1355:PRINT RD(J)

COMMODORE 64

Delete: 210

Add: 305 IF D=1 THEN 350

Change: 300 RD(D)=INT((RND(0)*15)+1)
360 PRINT CHR$(147)

156

```
 400 PRINT CHR$(147)
 540 PRINT "HIT THE RETURN KEY TO CONTINUE";
 660 PRINT "HIT THE RETURN KEY TO CONTINUE";
 770 PRINT "HIT THE RETURN KEY TO CONTINUE";
1150 PRINT TAB(21);J;TAB(27);RD(J)
1170 PRINT TAB(21);J
```

COMMODORE VIC-20   Program Will Not Run On Unexpanded VIC-20

TEXAS INSTRUMENTS 99/4A

Delete: 1090

Add:
```
205 D=500
865 END
985 PRINT CHR$(32);
```

Change:
```
 200 IF D<=30000 THEN 220
 210 RANDOMIZE
 270 PRINT TAB(3);"COUNTING THE STARS..."
 300 RD(D)=INT((RND*15)+1)
 340 PRINT TAB(5);E*6.666667;" BILLION..."
 360 CALL CLEAR
 400 CALL CLEAR
 460 PRINT "ARRANGE THESE 15 STARS IN"
 510 IF (G>0)*(G<16) THEN 570
 860 IF SEG$(Y$,1,1)<>"N" THEN 870
 930 PRINT TAB(12);"NOW"
 950 PRINT TAB(6);
 970 PRINT SEG$(Q$,16-A,1);
 980 IF(A<>7)*(A<>10) THEN 990
1140 IF RD(J)>=R THEN 1170
1150 PRINT J;TAB(24);RD(J)
```

TRS-80 COLOR COMPUTER

Delete: 210,450,460,470,480

Add:
```
305 IF D=1 THEN 350
373 CLS
374 PRINT "TRY TO ARRANGE THESE 15 STARS IN"
375 PRINT "ORDER OF THEIR BRIGHTNESS."
376 PRINT
377 PRINT "HIT THE ENTER KEY TO CONTINUE"
378 INPUT X$
```

Change:
```
 300 RD(D)=RND(15)
 340 PRINT TAB(8);E*6.666667;" BILLION..."
 360 CLS
 400 CLS
 410 PRINT TAB(6);"---- STAR ---- # - RANK -"
 490 PRINT "WHICH IS #";R;" IN BRIGHTNESS";
1150 PRINT TAB(21);J;TAB(27);RD(J)
1170 PRINT TAB(21);J
```

Escape from the Asteroid of Doom

You've crash-landed on a distant asteroid. You're searching for a secret treasure. Can you find the treasure and leave the cave alive? Others have tried — and failed.

This adventure may be your most difficult challenge ever. Making a map may help you stay alive. But be warned: The caves on this asteroid are not all on the same level. Because of twisting corridors, you might have to go south from Room 7 to Room 8 — and the same direction from Room 8 to Room 7!

☐ Sample Run

```
YOU CAN PLAY THIS GAME IN 3 VERSIONS:

    1--HARD
    2--MEDIUM
    3--EASY

WHICH ONE DO YOU WANT ? 3



YOU ARE A FAMOUS CAPTAIN OF THE
FASTEST STARSHIP IN THE GALAXY.
YOU HAVE JUST CRASH-LANDED ON
A DISTANT ASTEROID, AND MOST OF
YOUR CREW HAS NOT SURVIVED THE
IMPACT.  AS ONE OF THEM TAKES
HIS FINAL BREATH, HE REVEALS
THAT HE PROGRAMMED THE SHIP'S
COMPUTER TO CRASH-LAND THE SHIP
ON THIS BARREN SPACE ROCK SO
THAT HE COULD RETRIEVE A VAST
TREASURE HIDDEN DEEP INSIDE A
SERIES OF TUNNELS AND CHAMBERS
BENEATH THE SURFACE.  BEFORE HE
CAN SAY WHERE IT IS, HE TELLS
YOU THAT ONCE YOU ENTER THE
MAZE YOU HAVE TO FIND A SPECIAL
PLATINUM KEY--OR YOU'LL NEVER
BE ABLE TO ESCAPE ALIVE.

(HIT THE ENTER KEY FOR MORE)?


THEN HE PRESSES A BUTTON AT HIS
FEET AND TRANSPORTS YOU TO THE
FIRST ROOM INSIDE THE LABYRINTH
```

OF TUNNELS. YOU HAVE TO FIND
THE KEY TO ESCAPE--AND ALSO TRY
TO LOCATE THE TREASURE BEFORE
ANY OF THE TERRIBLE CREATURES
AND HAZARDS INSIDE THE TUNNELS
ENDS YOUR SEARCH.

ONE MORE THING--SOMEWHERE IN
THE MAZE OF TUNNELS IS A MAGIC
WORD WRITTEN BY THE ONLY OTHER
EARTHMAN TO VISIT THESE CAVES.
(HE DIED HORRIBLY BECAUSE HE
FORGOT IT.) THE WORD CHANGES
FROM TIME TO TIME, SO BE VERY
CAREFUL! A PROWLING MONSTER
WILL SMOTHER YOU IN SLIME UNLESS
YOU REMEMBER IT!! FINALLY, AT
THE END, YOU MUST GET TO ROOM 1
TO LEAVE THE CAVE. GOOD LUCK!
HOW MANY CREW MEMBERS WERE LOST? 4

===================================
: THE ONLY DIRECTIONS YOU CAN GIVE :
: ARE: "N", "E", "S", OR "W"   :
===================================

$$$$$$$$$$$ INVENTORY $$$$$$$$$$$$$

     -- NOTHING BUT YOUR WITS --

$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$

    ------> YOU ARE IN ROOM 1 <------
WHICH WAY DO YOU WANT TO GO? W

    ------> YOU ARE IN ROOM 17 <------
WHICH WAY DO YOU WANT TO GO? N
SORRY, THERE IS NO DOOR HERE.
YOU CAN'T GO THIS WAY.

    ------> YOU ARE IN ROOM 17 <------
WHICH WAY DO YOU WANT TO GO? W

AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA

YOU SEE A WORD WRITTEN IN BLOOD ON THE
WALL: IPYBESU   REMEMBER. THIS WORD--
IT MAY JUST SAVE YOUR LIFE!!!

SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS

    ------> YOU ARE IN ROOM 12 <------
WHICH WAY DO YOU WANT TO GO? E

```
    ------> YOU ARE IN ROOM 13 <------
WHICH WAY DO YOU WANT TO GO? N
HIDEOUS GIGANTIC SPIDERS BAR THE WAY.
YOU CAN'T GO THIS WAY.

    ------> YOU ARE IN ROOM 13 <------
WHICH WAY DO YOU WANT TO GO? E

    ------> YOU ARE IN ROOM 14 <------
WHICH WAY DO YOU WANT TO GO? E
THIS DOOR HAS SUDDENLY CLOSED.
YOU CAN'T GO THIS WAY.

    ------> YOU ARE IN ROOM 14 <------
WHICH WAY DO YOU WANT TO GO? N

UUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU

THE TERRIBLE SLIME MONSTER IS IN THE
ROOM WITH YOU.  YOU HAVE ONE CHANCE
TO USE THE MAGIC WORD TO SAVE YOUR
LIFE--OTHERWISE YOU'LL BE DEAD IN TWO
SECONDS! QUICK! WHAT IS IT? IPYBESU
THIS TIME YOU REMEMBERED.  LUCKY YOU!

PPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPPP

    ------> YOU ARE IN ROOM 8 <------
WHICH WAY DO YOU WANT TO GO? N

    ------> YOU ARE IN ROOM 4 <------
WHICH WAY DO YOU WANT TO GO? E

    ------> YOU ARE IN ROOM 5 <------
** YOU'VE FOUND ALL THE TREASURE!!! **
(NOW TRY TO LOCATE THE KEY TO ESCAPE)

WHICH WAY DO YOU WANT TO GO? N
THIS DOOR HAS SUDDENLY CLOSED.
YOU CAN'T GO THIS WAY.

    ------> YOU ARE IN ROOM 5 <------
WHICH WAY DO YOU WANT TO GO? W

    ------> YOU ARE IN ROOM 4 <------
WHICH WAY DO YOU WANT TO GO? W

    ------> YOU ARE IN ROOM 3 <------
** YOU'VE FOUND THE KEY TO ESCAPE!! **
*********** YOU DID IT!!! ***********
YOU FOUND THE TREASURE--AND ALSO FOUND
THE PLATINUM KEY TO LET YOU ESCAPE !!!
NOW JUST RETURN TO ROOM 1 TO GET BACK!

WHICH WAY DO YOU WANT TO GO? S
```

```
    ------> YOU ARE IN ROOM 7 <------
WHICH WAY DO YOU WANT TO GO? S

SORRY, THERE IS NO DOOR HERE.
YOU CAN'T GO THIS WAY.

    ------> YOU ARE IN ROOM 7 <------
WHICH WAY DO YOU WANT TO GO? W

THIS DOOR HAS SUDDENLY CLOSED.
YOU CAN'T GO THIS WAY.

    ------> YOU ARE IN ROOM 7 <------
WHICH WAY DO YOU WANT TO GO? E
HISSING SCUM CREATURES BLOCK THE WAY,
BUT YOU FREEZE AND THEY IGNORE YOU.


QQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQQ

YOU SEE A WORD WRITTEN IN BLOOD ON THE
WALL:  QZLFNUW   REMEMBER THIS WORD--
IT MAY JUST SAVE YOUR LIFE!!!

IIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII


    ------> YOU ARE IN ROOM 7 <------
WHICH WAY DO YOU WANT TO GO? N

    ------> YOU ARE IN ROOM 3 <------
WHICH WAY DO YOU WANT TO GO? N
YOU ALMOST WALK INTO A CLOUD OF POISON.
YOU CAN'T GO THIS WAY.

    ------> YOU ARE IN ROOM 3 <------
WHICH WAY DO YOU WANT TO GO? E

    ------> YOU ARE IN ROOM 4 <------
WHICH WAY DO YOU WANT TO GO? N

    ------> YOU ARE IN ROOM 2 <------
WHICH WAY DO YOU WANT TO GO? N
AHEAD ARE SHEETS OF UNPASSABLE FLAME.
YOU CAN'T GO THIS WAY.

    ------> YOU ARE IN ROOM 2 <------
WHICH WAY DO YOU WANT TO GO? W

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

YOU DID IT!!!!  YOU FOUND THE TREASURE
AND THE KEY TO ESCAPE--AND YOU MADE IT
BACK TO ROOM 1 TO GET OUT OF THE MAZE!

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
```

☐ Program Listing

```
10 REM ESCAPE FROM THE ASTEROID OF DOOM
100 PRINT "YOU CAN PLAY THIS GAME IN 3 VERSIONS:"
110 PRINT
120 PRINT TAB(5);"1--HARD"
130 PRINT TAB(5);"2--MEDIUM"
140 PRINT TAB(5);"3--EASY"
150 PRINT
160 PRINT "WHICH ONE DO YOU WANT ";
170 INPUT DI
180 IF DI<1 THEN 160
190 IF DI>3 THEN 160
200 FOR A=1 TO 25
210 PRINT
220 NEXT A
230 PRINT "YOU ARE A FAMOUS CAPTAIN OF THE"
240 PRINT "FASTEST STARSHIP IN THE GALAXY."
250 PRINT "YOU HAVE JUST CRASH-LANDED ON"
260 PRINT "A DISTANT ASTEROID, AND MOST OF"
270 PRINT "YOUR CREW HAS NOT SURVIVED THE"
280 PRINT "IMPACT.  AS ONE OF THEM TAKES"
290 PRINT "HIS FINAL BREATH, HE REVEALS"
300 PRINT "THAT HE PROGRAMMED THE SHIP'S"
310 PRINT "COMPUTER TO CRASH-LAND THE SHIP"
320 PRINT "ON THIS BARREN SPACE ROCK SO"
330 PRINT "THAT HE COULD RETRIEVE A VAST"
340 PRINT "TREASURE HIDDEN DEEP INSIDE A"
350 PRINT "SERIES OF TUNNELS AND CHAMBERS"
360 PRINT "BENEATH THE SURFACE.  BEFORE HE"
370 PRINT "CAN SAY WHERE IT IS, HE TELLS"
380 PRINT "YOU THAT ONCE YOU ENTER THE"
390 PRINT "MAZE YOU HAVE TO FIND A SPECIAL"
400 PRINT "PLATINUM KEY--OR YOU'LL NEVER"
410 PRINT "BE ABLE TO ESCAPE ALIVE."
420 FOR A=1 TO 3
430 PRINT
440 NEXT A
450 PRINT "(HIT THE ENTER KEY FOR MORE)";
460 INPUT X$
470 FOR A=1 TO 16
480 PRINT
490 NEXT A
500 PRINT "THEN HE PRESSES A BUTTON AT HIS"
510 PRINT "FEET AND TRANSPORTS YOU TO THE"
520 PRINT "FIRST ROOM INSIDE THE LABYRINTH"
530 PRINT "OF TUNNELS.  YOU HAVE TO FIND"
540 PRINT "THE KEY TO ESCAPE--AND ALSO TRY"
550 PRINT "TO LOCATE THE TREASURE BEFORE"
560 PRINT "ANY OF THE TERRIBLE CREATURES"
570 PRINT "AND HAZARDS INSIDE THE TUNNELS"
580 PRINT "ENDS YOUR SEARCH."
590 PRINT
600 PRINT "ONE MORE THING--SOMEWHERE IN"
```

```
610 PRINT "THE MAZE OF TUNNELS IS A MAGIC"
620 PRINT "WORD WRITTEN BY THE ONLY OTHER"
630 PRINT "EARTHMAN TO VISIT THESE CAVES."
640 PRINT "(HE DIED HORRIBLY BECAUSE HE"
650 PRINT "FORGOT IT.)  THE WORD CHANGES"
660 PRINT "FROM TIME TO TIME, SO BE VERY"
670 PRINT "CAREFUL!  A PROWLING MONSTER"
680 PRINT "WILL SMOTHER YOU IN SLIME UNLESS"
690 PRINT "YOU REMEMBER IT!!  FINALLY, AT"
700 PRINT "THE END, YOU MUST GET TO ROOM 1"
710 PRINT "TO LEAVE THE CAVE.  GOOD LUCK!"
720 Q$=CHR$(34)
730 PRINT "HOW MANY CREW MEMBERS WERE LOST";
740 INPUT LOST
750 IF LOST<1 THEN 730
760 RANDOMIZE(LOST)
770 FOR A=1 TO 17
780 PRINT
790 NEXT A
800 GOSUB 3380
810 PRINT
820 FIND=0
830 TR=INT(RND(1)*16)+3
840 MG=INT(RND(1)*16)+3
850 IF MG=TR THEN 840
860 REM -------------------------
870 ROOM=1
880 GOSUB 4010
890 GOSUB 2980
900 IF I$="E" THEN 970
910 IF I$="W" THEN 2320
920 IF I$="N" THEN GOSUB 2500
930 IF I$="S" THEN GOSUB 2500
940 GOSUB 3260
950 GOTO 890
960 REM -------------------------
970 ROOM=2
980 GOSUB 2980
990 IF I$="E" THEN GOSUB 2500
1000 IF I$="W" THEN 870
1010 IF I$="N" THEN GOSUB 2500
1020 IF I$="S" THEN 1150
1030 GOSUB 3260
1040 GOTO 980
1050 REM -------------------------
1060 ROOM=3
1070 GOSUB 2980
1080 IF I$="E" THEN 1150
1090 IF I$="W" THEN GOSUB 2500
1100 IF I$="N" THEN GOSUB 2500
1110 IF I$="S" THEN 1420
1120 GOSUB 3260
1130 GOTO 1070
1140 REM -------------------------
1150 ROOM=4
```

(continued)

```
1160 GOSUB 2980
1170 IF I$="E" THEN 1240
1180 IF I$="W" THEN 1060
1190 IF I$="N" THEN 970
1200 IF I$="S" THEN 1510
1210 GOSUB 3260
1220 GOTO 1160
1230 REM ------------------------------
1240 ROOM=5
1250 GOSUB 2980
1260 IF I$="E" THEN 1330
1270 IF I$="W" THEN 1150
1280 IF I$="N" THEN GOSUB 2500
1290 IF I$="S" THEN 1600
1300 GOSUB 3260
1310 GOTO 1250
1320 REM ------------------------------
1330 ROOM=6
1340 GOSUB 2980
1350 IF I$="E" THEN GOSUB 2500
1360 IF I$="W" THEN 1240
1370 IF I$="N" THEN GOSUB 2500
1380 IF I$="S" THEN 1780
1390 GOSUB 3260
1400 GOTO 1340
1410 REM ------------------------------
1420 ROOM=7
1430 GOSUB 2980
1440 IF I$="E" THEN GOSUB 2500
1450 IF I$="W" THEN GOSUB 2500
1460 IF I$="N" THEN 1060
1470 IF I$="S" THEN GOSUB 2500
1480 GOSUB 3260
1490 GOTO 1430
1500 REM ------------------------------
1510 ROOM=8
1520 GOSUB 2980
1530 IF I$="E" THEN GOSUB 2500
1540 IF I$="W" THEN GOSUB 2500
1550 IF I$="N" THEN 1150
1560 IF I$="S" THEN 2050
1570 GOSUB 3260
1580 GOTO 1520
1590 REM ------------------------------
1600 ROOM=9
1610 GOSUB 2980
1620 IF I$="E" THEN GOSUB 2500
1630 IF I$="W" THEN GOSUB 2500
1640 IF I$="N" THEN 1240
1650 IF I$="S" THEN 2140
1660 GOSUB 3260
1670 GOTO 1610
1680 REM ------------------------------
1690 ROOM=10
1700 GOSUB 2980
```

```
1710 IF I$="E" THEN 1780
1720 IF I$="W" THEN GOSUB 2500
1730 IF I$="N" THEN GOSUB 2500
1740 IF I$="S" THEN GOSUB 2500
1750 GOSUB 3260
1760 GOTO 1700
1770 REM -----------------------------
1780 ROOM=11
1790 GOSUB 2980
1800 IF I$="E" THEN 2410
1810 IF I$="W" THEN 1690
1820 IF I$="N" THEN 1330
1830 IF I$="S" THEN 2230
1840 GOSUB 3260
1850 GOTO 1790
1860 REM -----------------------------
1870 ROOM=12
1880 GOSUB 2980
1890 IF I$="E" THEN 1960
1900 IF I$="W" THEN GOSUB 2500
1910 IF I$="N" THEN GOSUB 2500
1920 IF I$="S" THEN 2320
1930 GOSUB 3260
1940 GOTO 1880
1950 REM -----------------------------
1960 ROOM=13
1970 GOSUB 2980
1980 IF I$="E" THEN 2050
1990 IF I$="W" THEN 1870
2000 IF I$="N" THEN GOSUB 2500
2010 IF I$="S" THEN GOSUB 2500
2020 GOSUB 3260
2030 GOTO 1970
2040 REM -----------------------------
2050 ROOM=14
2060 GOSUB 2980
2070 IF I$="E" THEN GOSUB 2500
2080 IF I$="W" THEN 1960
2090 IF I$="N" THEN 1510
2100 IF I$="S" THEN GOSUB 2500
2110 GOSUB 3260
2120 GOTO 2060
2130 REM -----------------------------
2140 ROOM=15
2150 GOSUB 2980
2160 IF I$="E" THEN 2230
2170 IF I$="W" THEN GOSUB 2500
2180 IF I$="N" THEN 1600
2190 IF I$="S" THEN 2410
2200 GOSUB 3260
2210 GOTO 2150
2220 REM -----------------------------
2230 ROOM=16
2240 GOSUB 2980
2250 IF I$="E" THEN GOSUB 2500
```

(continued)

```
2260 IF I$="W" THEN 2140
2270 IF I$="N" THEN 1780
2280 IF I$="S" THEN 2410
2290 GOSUB 3260
2300 GOTO 2240
2310 REM --------------------------
2320 ROOM=17
2330 GOSUB 2980
2340 IF I$="E" THEN 2410
2350 IF I$="W" THEN 1870
2360 IF I$="N" THEN GOSUB 2500
2370 IF I$="S" THEN 870
2380 GOSUB 3260
2390 GOTO 2330
2400 REM --------------------------
2410 ROOM=18
2420 GOSUB 2980
2430 IF I$="E" THEN GOSUB 2500
2440 IF I$="W" THEN 2320
2450 IF I$="N" THEN 2140
2460 IF I$="S" THEN 1780
2470 GOSUB 3260
2480 GOTO 2420
2490 REM -------- DEAD END SUBROUTINE ----------
2500 ON DI GOTO 2510,2520,2530
2510 ON INT(RND(1)*5)+1 GOTO 2540,2570,2660,2690,2720
2520 ON INT(RND(1)*6)+1 GOTO 2540,2600,2630,2660,2690,2720
2530 ON INT(RND(1)*7)+1 GOTO 2540,2570,2600,2630,2660,2690,
     2720
2540 PRINT "SORRY, THERE IS NO DOOR HERE."
2550 PRINT "YOU CAN'T GO THIS WAY."
2560 RETURN
2570 PRINT "THIS WHOLE WALL IS OOZING ACID."
2580 PRINT "YOU CAN'T GO THIS WAY."
2590 RETURN
2600 PRINT "THIS DOOR HAS SUDDENLY CLOSED."
2610 PRINT "YOU CAN'T GO THIS WAY."
2620 RETURN
2630 PRINT "HIDEOUS GIGANTIC SPIDERS BAR THE WAY."
2640 PRINT "YOU CAN'T GO THIS WAY."
2650 RETURN
2660 PRINT "AHEAD ARE SHEETS OF UNPASSABLE FLAME."
2670 PRINT "YOU CAN'T GO THIS WAY."
2680 RETURN
2690 PRINT "YOU ALMOST WALK INTO A CLOUD OF POISON."
2700 PRINT "YOU CAN'T GO THIS WAY."
2710 RETURN
2720 ON INT(RND(1)*4)+1 GOTO 2730,2790,2850,2910
2730 PRINT "THE WALLS START TO CRUMBLE AROUND YOU,"
2740 ON INT(RND(1)*6)+1 GOTO 2750,2750,2750,2750,2750,2770
2750 PRINT "BUT YOU NARROWLY ESCAPE."
2760 RETURN
2770 PRINT "AND CRUSH YOU INTO DUST.  THE END."
2780 END
2790 PRINT "YOU FALL INTO A SNAKE-FILLED PIT"
```

```
2800 ON INT(RND(1)*6)+1 GOTO 2810,2810,2810,2810,2810,2830
2810 PRINT "BUT MANAGE TO PULL YOURSELF TO SAFETY."
2820 RETURN
2830 PRINT "AND ARE SAVAGELY BITTEN.  THE END."
2840 END
2850 PRINT "HISSING SCUM CREATURES BLOCK THE WAY,"
2860 ON INT(RND(1)*6)+1 GOTO 2870,2870,2870,2870,2870,2890
2870 PRINT "BUT YOU FREEZE AND THEY IGNORE YOU."
2880 RETURN
2890 PRINT "AND TURN YOU INTO JELLY.  THE END."
2900 END
2910 PRINT "A TORNADO OF BROKEN GLASS BLOWS AT YOU,"
2920 ON INT(RND(1)*6)+1 GOTO 2930,2930,2930,2930,2930,2950
2930 PRINT "BUT YOU DUCK SAFELY BEHIND FALLEN ROCK."
2940 RETURN
2950 PRINT "AND SLASHES YOU TO SHREDS.  THE END"
2960 END
2970 REM ------- KEY SUBROUTINE -------
2980 PRINT
2990 GOSUB 3620
3000 PRINT " ------> YOU ARE IN ROOM ";ROOM;" <------"
3010 IF ROOM<>TR THEN 3090
3020 IF F1=1 THEN 3170
3030 PRINT "** YOU'VE FOUND ALL THE TREASURE!!! **"
3040 GOSUB 3550
3050 F1=1
3060 IF F2=1 THEN 3200
3070 PRINT "(NOW TRY TO LOCATE THE KEY TO ESCAPE)"
3080 PRINT
3090 IF ROOM<>MG THEN 3170
3100 IF F2=1 THEN 3170
3110 PRINT "** YOU'VE FOUND THE KEY TO ESCAPE!! **"
3120 GOSUB 3550
3130 F2=1
3140 IF F1=1 THEN 3200
3150 PRINT "(NOW TRY TO LOCATE THE VAST TREASURE)"
3160 PRINT
3170 PRINT "WHICH WAY DO YOU WANT TO GO";
3180 INPUT I$
3190 RETURN
3200 PRINT "********** YOU DID IT!!! ************"
3210 PRINT "YOU FOUND THE TREASURE--AND ALSO FOUND"
3220 PRINT "THE PLATINUM KEY TO LET YOU ESCAPE !!!"
3230 PRINT "NOW JUST RETURN TO ROOM 1 TO GET BACK!"
3240 GOTO 3160
3250 REM ---- DIRECTION SUBROUTINE ----
3260 IF I$="N" OR I$="E" OR I$="W" OR I$="S" THEN 3530
3270 PRINT CHR$(7)
3280 K=K+1
3290 IF K<5 THEN 3360
3300 PRINT "YOU DIDN'T LISTEN, DID YOU?"
3310 PRINT "YOU ARE NOW FALLING INTO A HORRIBLE"
3320 PRINT "STINKING SWAMP CRAWLING WITH DEADLY"
3330 PRINT "CREATURES THAT WILL DEVOUR YOU IN"
3340 PRINT "JUST UNDER 20 SECONDS.  BYE-BYE!"          (continued)
```

```
3350 END
3360 PRINT "YOU JUST WALKED INTO A CORNER AND"
3370 PRINT "BANGED YOUR HEAD ON A SLIMY ROCK."
3380 PRINT
3390 PRINT "*";
3400 FOR L=1 TO 34
3410 PRINT "=";
3420 NEXT L
3430 PRINT "*"
3440 PRINT ": THE ONLY DIRECTIONS YOU CAN GIVE :"
3450 PRINT ": ARE: ";Q$;"N";Q$;", ";Q$;"E";Q$;", ";Q$;"S";
3460 PRINT Q$;", OR ";Q$;"W";Q$;TAB(36);":."
3470 PRINT "*";
3480 FOR L=1 TO 34
3490 PRINT "=";
3500 NEXT L
3510 PRINT "*"
3520 PRINT
3530 RETURN
3540 REM ----- BEEP SUBROUTINE -----
3550 FOR B=1 TO 5
3560 PRINT CHR$(7);
3570 FOR LAG=1 TO 600
3580 NEXT LAG
3590 NEXT B
3600 RETURN
3610 REM --- SLIME MONSTER SUBROUTINE ---
3620 IF SLIME=1 THEN 3750
3630 IF ROOM<7 THEN 3900
3640 MAGIC$=""
3650 FOR S=1 TO 7
3660 MAGIC$=MAGIC$+CHR$(INT(RND(1)*26)+65)
3670 NEXT S
3680 GOSUB 3920
3690 PRINT "YOU SEE A WORD WRITTEN IN BLOOD ON THE"
3700 PRINT "WALL: ";MAGIC$;"   REMEMBER THIS WORD--"
3710 PRINT "IT MAY JUST SAVE YOUR LIFE!!!"
3720 GOSUB 3920
3730 SLIME=1
3740 GOTO 3900
3750 IF INT(RND(1)*7)<>1 THEN 3900
3760 GOSUB 3920
3770 PRINT "THE TERRIBLE SLIME MONSTER IS IN THE"
3780 PRINT "ROOM WITH YOU.  YOU HAVE ONE CHANCE"
3790 PRINT "TO USE THE MAGIC WORD TO SAVE YOUR"
3800 PRINT "LIFE--OTHERWISE YOU'LL BE DEAD IN TWO"
3810 PRINT "SECONDS! QUICK! WHAT IS IT";
3820 INPUT TRY$
3830 IF TRY$=MAGIC$ THEN 3870
3840 PRINT "NO!!  YOU'RE WRONG!  THE MAGIC WORD"
3850 PRINT "WAS ";MAGIC$;".    AARRRRGGGHHHH!!!!"
3860 END
3870 PRINT "THIS TIME YOU REMEMBERED.  LUCKY YOU!"
3880 SLIME=0
3890 GOSUB 3920
```

```
3900 RETURN
3910 REM --- LINE DRAWING SUBROUTINE ---
3920 PRINT
3930 N=(RND(1)*26)+64
3940 FOR E=1 TO 38
3950 PRINT CHR$(N);
3960 NEXT E
3970 PRINT
3980 PRINT
3990 RETURN
4000 REM --- CHECK FOR WIN SUBROUTINE ---
4010 IF F1<>1 OR F2<>1 THEN 4120
4020 PRINT
4030 PRINT "!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
4040 PRINT
4050 PRINT "YOU DID IT!!!!  YOU FOUND THE TREASURE"
4060 PRINT "AND THE KEY TO ESCAPE--AND YOU MADE IT"
4070 PRINT "BACK TO ROOM 1 TO GET OUT OF THE MAZE!"
4080 PRINT
4090 PRINT "!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!"
4100 GOSUB 3550
4110 END
4120 PRINT
4130 PRINT "$$$$$$$$$$$$ INVENTORY $$$$$$$$$$$$$"
4140 PRINT
4150 IF F2=1 THEN PRINT TAB(9);"-- KEY TO ESCAPE --"
4160 IF F1=1 THEN PRINT TAB(7);"-- FABULOUS TREASURE --"
4170 IF F1=0 AND F2=0 THEN PRINT TAB(5);"-- NOTHING BUT
     YOUR WITS --"
4180 PRINT
4190 PRINT "$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$$"
4200 PRINT
4210 RETURN
```

☐ If You Have . . .

APPLE II

Delete: 760

Change: 450 PRINT "(HIT THE RETURN KEY FOR MORE)";

ATARI

Delete: 760

Add: 95 DIM X$(1),Q$(1),I$(1),MAGIC$(7),TRY$(7)
     4175 PRINT "--NOTHING BUT YOUR WITS--"
     4225 FOR AA=1 TO IDX
     4230 PRINT " ";:NEXT AA:RETURN   *(continued)*

```
Change:   120 IDX=4:GOSUB 4225:PRINT "1--HARD"
          130 GOSUB 4225:PRINT "2--MEDIUM"
          140 GOSUB 4225:PRINT "3--EASY"
          450 PRINT "(HIT THE RETURN KEY FOR MORE)";
          830 TR=INT(RND(0)*16)+3
          840 MG=INT(RND(0)*16)+3
          2510 ON INT(RND(0)*5)+1 GOTO 2540,2570,2660,2690,
               2720
          2520 ON INT(RND(0)*6)+1 GOTO 2540,2600,2630,2660,
               2690,2720
          2530 ON INT(RND(0)*7)+1 GOTO 2540,2570,2600,2630,
               2660,2690,2720
          2720 ON INT(RND(0)*4)+1 GOTO 2730,2790,2850,2910
          2740 ON INT(RND(0)*6)+1 GOTO 2750,2750,2750,2750,
               2750,2770
          2800 ON INT(RND(0)*6)+1 GOTO 2810,2810,2810,2810,
               2810,2830
          2860 ON INT(RND(0)*6)+1 GOTO 2870,2870,2870,2870,
               2870,2890
          2920 ON INT(RND(0)*6)+1 GOTO 2930,2930,2930,2930,
               2930,2950
          3270 PRINT CHR$(253)
          3460 PRINT Q$;", OR ";Q$;"W";Q$;:IDX=8:GOSUB 4225:
               PRINT ":"
          3560 PRINT CHR$(253)
          3660 MAGIC$(S)=CHR$(INT(RND(0)*26)+65)
          3750 IF INT(RND(0)*7)<>1 THEN 3900
          3930 N=(RND(0)*26)+64
          3940 FOR E=1 TO 37
          4150 IF F2=1 THEN IDX=8:GOSUB 4225:PRINT "--KEY
               TO ESCAPE--"
          4160 IF F1=1 THEN IDX=6:GOSUB 4225:PRINT
               "--FABULOUS TREASURE--"
          4170 IF F1=0 AND F2=0 THEN IDX=4:GOSUB 4225
```

COMMODORE 64

```
Delete:   760

Change:   450 PRINT "(HIT THE RETURN KEY FOR MORE)";
          830 TR=INT(RND(0)*16)+3
          840 MG=INT(RND(0)*16)+3
          2510 ON INT(RND(0)*5)+1 GOTO 2540,2570,2660,2690,
               2720
          2520 ON INT(RND(0)*6)+1 GOTO 2540,2600,2630,2660,
               2690,2720
          2530 ON INT(RND(0)*7)+1 GOTO 2540,2570,2600,2630,
               2660,2690,2720
          2720 ON INT(RND(0)*4)+1 GOTO 2730,2790,2850,2910
          2740 ON INT(RND(0)*6)+1 GOTO 2750,2750,2750,2750,
               2750,2770
          2800 ON INT(RND(0)*6)+1 GOTO 2810,2810,2810,2810,
               2810,2830
```

```
2860  ON INT(RND(0)*6)+1 GOTO 2870,2870,2870,2870,
      2870,2890
2920  ON INT(RND(0)*6)+1 GOTO 2930,2930,2930,2930,
      2930,2950
3460  PRINT Q$;", OR ";Q$;"W";Q$;TAB(27);":"
3660  MAGIC$=CHR$(INT(RND(0)*26)+65)
3750  IF INT(RND(0)*7)<>1 THEN 3900
3930  N=(RND(0)*26)+64
```

COMMODORE VIC-20   Program Will Not Run on Unexpanded VIC-20

TEXAS INSTRUMENTS 99/4A

Add:
```
315  PRINT "(HIT THE ENTER KEY FOR MORE)"
316  INPUT Y$
605  PRINT "(HIT THE ENTER KEY FOR MORE)"
606  INPUT Y$
935  GOSUB 2500
1025 GOSUB 2500
1115 GOSUB 2500
1295 GOSUB 2500
1385 GOSUB 2500
1475 GOSUB 2500
1565 GOSUB 2500
1655 GOSUB 2500
1745 GOSUB 2500
1925 GOSUB 2500
2015 GOSUB 2500
2105 GOSUB 2500
2195 GOSUB 2500
2285 GOSUB 2500
2375 GOSUB 2500
2465 GOSUB 2500
4155 PRINT TAB(9);"--KEY TO ESCAPE--"
4165 PRINT TAB(7);"--FABULOUS TREASURE--"
4173 GOTO 4180
4175 PRINT TAB(5);"--NOTHING BUT YOUR WITS--"
```

Change:
```
830  TR=INT(RND*16)+3
840  MG=INT(RND*16)+3
920  IF I$="N" THEN 935
930  IF I$<>"S" THEN 940
990  IF I$="E" THEN 1025
1010 IF I$="N" THEN 1025
1090 IF I$="W" THEN 1115
1100 IF I$="N" THEN 1115
1280 IF I$="N" THEN 1295
1350 IF I$="E" THEN 1385
1370 IF I$="N" THEN 1385
1440 IF I$="E" THEN 1475
1450 IF I$="W" THEN 1475
1470 IF I$<>"S" THEN 1480
1530 IF I$="E" THEN 1565
```

(continued)

```
1540 IF I$="W" THEN 1565
1620 IF I$="E" THEN 1655
1630 IF I$="W" THEN 1655
1720 IF I$="W" THEN 1745
1730 IF I$="N" THEN 1745
1740 IF I$<>"S" THEN 1750
1900 IF I$="W" THEN 1925
1910 IF I$="N" THEN 1925
2000 IF I$="N" THEN 2015
2010 IF I$<>"S" THEN 2020
2070 IF I$="E" THEN 2105
2100 IF I$<>"S" THEN 2110
2170 IF I$="W" THEN 2195
2250 IF I$="E" THEN 2285
2360 IF I$="N" THEN 2375
2430 IF I$="E" THEN 2465
2510 ON INT(RND*5)+1 GOTO 2540,2570,2660,2690,2720
2520 ON INT(RND*6)+1 GOTO 2540,2600,2630,2660,2690,
     2720
2530 ON INT(RND*7)+1 GOTO 2540,2570,2600,2630,2660,
     2690,2720
2720 ON INT(RND*4)+1 GOTO 2730,2790,2850,2910
2740 ON INT(RND*6)+1 GOTO 2750,2750,2750,2750,2750,
     2770
2800 ON INT(RND*6)+1 GOTO 2810,2810,2810,2810,2810,
     2830
2860 ON INT(RND*6)+1 GOTO 2870,2870,2870,2870,2870,
     2890
2920 ON INT(RND*6)+1 GOTO 2930,2930,2930,2930,2930,
     2950
3000 PRINT "-> YOU ARE IN ROOM";ROOM;" <-"
3200 PRINT "******* YOU DID IT *******"
3260 IF (I$="N")+(I$="E")+(I$="W")+(I$="S") THEN
     3530
3270 CALL SOUND(100,440,2)
3400 FOR L=1 TO 26
3480 FOR L=1 TO 26
3560 CALL SOUND(100,440,2)
3570 FOR LAG=1 TO 100
3660 MAGIC$=MAGIC$&CHR$(INT(RND*26)+65)
3750 IF INT(RND*7)<>1 THEN 3900
3930 N=(RND*26)+64
3940 FOR E=1 TO 28
4010 IF (F1<>1)+(F2<>1) THEN 4120
4130 PRINT "$$$$$$$$ INVENTORY $$$$$$$$"
4150 IF F2<>1 THEN 4160
4160 IF F1<>1 THEN 4170
4170 IF (F1=0)*(F2=0) THEN 4175
```

TRS-80 COLOR COMPUTER

Delete: 110,150,210,420,430,440,450,460,470,480,490,760,
        770,790,810,860,960,1050,1140,1230,1320,1410,1500,
        1590,1600,1610,1620,1630,1640,1650,1660,1670,1680,

```
      1770,1860,1950,2040,2130,2220,2310,2400,2490,2970,
      3080,3160,3250,3380,3470,3480,3490,3500,3510,3540,
      3610,3680,3720,3760,3890,3910,3920,3930,3940,3950,
      3960,3970,3980,3990,4000,4030,4040,4120,4140,4180,
      4190
```

Add: 355 PRINT "HIT ENTER FOR MORE"
         356 INPUT X$
         595 INPUT X$

Change: 350 PRINT "SERIES OF TUNNELS AND CHAMBERS BENEATH
              THE SURFACE."

```
      360  PRINT "BEFORE HE ";
      590  PRINT "HIT ENTER FOR MORE"
      780  CLS
      800  GOSUB 3390
      830  TR=RND(16)+2
      840  TR=RND(16)+2
      1290 IF I$="S" THEN 2140
      2180 IF I$="N" THEN 1240
      2510 ON RND(5) GOTO 2540,2570,2660,2690,2720
      2520 ON RND(6) GOTO 2540,2600,2630,2660,2690,2720
      2530 ON RND(7) GOTO 2540,2570,2600,2630,2660,2690,
           2720
      2720 ON RND(4) GOTO 2730,2790,2850,2910
      2740 ON RND(6) GOTO 2750,2750,2750,2750,2750,2770
      2800 ON RND(6) GOTO 2810,2810,2810,2810,2810,2830
      2860 ON RND(6) GOTO 2870,2870,2870,2870,2870,2890
      2920 ON RND(6) GOTO 2930,2930,2930,2930,2930,2950
      2980 REM
      3000 PRINT "YOU ARE IN ROOM ";ROOM;
      3200 PRINT "YOU DID IT!!"
      3270 SOUND 173,3
      3400 FOR L=1 TO 28
      3560 SOUND 173,3
      3660 MAGIC$=MAGIC$+CHR$(RND(26)+64)
      3750 IF RND(7)<>1 THEN 3900
      4010 IF F1<>1 OR F2<>2 THEN 4130
      4130 PRINT "INVENTORY"
```

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