```
s = one space in a PRINT statement
 m = multiplication sign
 d = division sign
 0 = zero (the letter 0 is not used)
                          (C)1980 BY S L WALTERS
 HIDDEN WORD FINDER
                          Required SZ=722
 1 CX=CX+2; RETURN
 2 GOSUB 4; PRINT "GO=1",; GOTO 7
 3 CY=CY+16; RETURN
 4 CX=-70; RETURN
 5 BOX 0,CY,159,7,H; RETURN
 6 PRINT "ssNO=0",
 7 H=3; GOSUB 5; K=KP; H=2; GOSUB 5; RETURN
 8 I=I+F; C=R; D=I; RETURN
 9 A=1; B=U+1; Q=W; I=0; F=1; RETURN
11 E=C; C=D; D=E; RETURN
12 GOSUB 50; A=0; B=V; Q=1; RETURN
13 C=WmR+1; D=WmR+W; S=1; RETURN
14 GOSUB 50; GOSUB 51; RETURN
15 GOSUB 13; S=-1; GOTO 11
16 GOSUB 52; A=1; B=W; RETURN
17 C=R; D=U+R; S=W; RETURN
18 GOSUB 52; GOSUB 51; RETURN
19 GOSUB 17; S=-W; GOTO 11
20 GOSUB 53; GOTO 9
21 S=-V; GOTO 8
22 A=U+2; B=T; Q=1: GOTO 3
23 F=W; GOTO 21
24 GOSUB 53; GOSUB 51; GOTO 9
25 I=I+F; C=I; D=R; S=V; RETURN
26 A=Wm2; B=T; I=U+2; GOTO 3
27 GOTO 8
28 GOSUB 54; A=W; B=1; Q=-1; I=O; F=W; RETURN
29 S=W+1; GOTO 8
30 A=W+1; B=U+1; Q=W; I=T; F=-1; GOTO 3
31 GOTO 29
32 GOSUB 54; GOSUB 51; A=W; B=T; I=W+1; RETURN
33 S=-W-1; GOTO 8
34 A=T-1; B=U+1; Q=-1; I=1; F=W; GOTO 3
35 GOTO 8
42 IF L > 0 L=L-1; GOSUB 46; TV=45; GOSUB 1; GOSUB 46
44 GOTO 120
46 CX=CX-8; RETURN
50 PRINT "ROWS",; RETURN
51 PRINT "sBACKWARDS",; RETURN
52 PRINT "COLUMNS",; RETURN
53 PRINT "LEFTS",; RETURN
54 PRINT "RIGHTS",; RETURN
55 PRINT. "DIAGONALS",; RETURN
62 CY=-32; INPUT "SPUZZLE SIZE (<20)s=s"W
64 IF W>19 GOTO 62
70 T=WmW; V=W-1; U=VmW
100 FOR R=1 TO T STEP W
105 PRINT; PRINT #1, "sLINE #", (R+V)dW
107 PRINT; GOSUB 4; FOR N=1 TO W; PRINT "-",; GOSUB 1; NEXT N
110 GOSUB 4; FOR L=0 TO V
```

120 K=KP; IF K=31 GOTO 42

130 @(R+L)=K; TV=K; GOSUB 1; NEXT L; PRINT; PRINT

Note: use command words (e.g., LINE) rather than individual letters in PRINT statements whenever possible to save memory space.

This typed listing has some extra spaces included for easier reading (for example, FOR N=1 TO 5 and IF S=7 S=1). Do not input any spaces which are not needed unless specifically indicated by an "s" in the listing.

```
130 @(R+L)=K; TV=K; GOSUB 1; NEXT L; PRINT; PRINT
135 GOSUB 4; PRINT "LINE OK=1",; GOSUB 6; IF K=48 GOTO 105
136 IF K#49 GOTO 135
140 NEXT R
200 FOR M=12 TO 34 STEP 2
210 CX=-76; GOSUB M; PRINT; PRINT; L=1; GOSUB 4
220 FOR R=A TO B STEP Q; GOSUB M+1
230 FOR N=C TO D STEP S; TV=@(N); GOSUB 1; NEXT N; PRINT; PRINT; L=L+1; IF L=5 L=0; GOSUB 2
240 GOSUB 4; NEXT R; GOSUB 2; NEXT M
250 GOSUB 4; PRINT "REPEAT=1",; GOSUB 6
260 IF K=48 PRINT; GOTO 62
270 GOTO 200
```

The program must be loaded to tape with the following procedure:

:PRINT; TV=0; TV=1; PRINT; PRINT ".HIDDEN WORD FINDER"; PRINT ".(C)1980 BY S L WALTERS"; PRINT; LIST; PRINT "FC=10; :RETURN; NT=1; PRINT; GOTO 62"

OPERATING THE PROGRAM

Nov. 4, 1980

This program allows you to enter a hidden word puzzle (up to 19x19 letters) and then display the puzzle line by line, all in normal left-to-right reading pattern, as follows:

Rows
Rows backwards
Columns top to bottom
Columns bottom to top
Left diagonals
Left diagonals backwards (from top to left side)
Right diagonals (from right side to top)
Right diagonals backwards (from top to right side)

You will see how easy it is to spot the hidden words when they appear in the normal reading direction. You may even find words that the puzzle maker missed.

To start the program, enter the size of the puzzle (up to a maximum of 19 letters): i.e., the number of letters in the longer side of the puzzle, either left to right or top to bottom.

The ERASE key will let you correct errors in a line while you are entering it. Check each line carefully after entering it before proceeding to the next line. You can re-enter the line at this time if it is wrong, but not later without starting completely over.

The program is based on a square letter pattern, while many hidden word puzzles are rectangular. Therefore, if the puzzle is not square, as in the sample below which is 19 letters across by 15 letters down, spaces must be added to the shorter side to make the array square.

In the sample below, the puzzle size would be entered as 19. The first 15 rows called for by the computer would be entered as they appear in the puzzle, 19 letters per row. Then the computer will call for rows #16 through #19, and 19 spaces should be entered for each of these "invisible rows".

When the last row is entered, the computer begins to display the rows, stopping every 5 rows until you push Key #1, so that no row scrolls above the screen until you are done looking for hidden words in it.

When the display is completed, you can repeat the entire display; or go on to a new puzzle entry.

