SPECTRUM VARIATIONS

Because the Spectrum holds all string arrays as fixed-length strings, problems arise when we wish to print out an element of a string array as part of a larger sentence. When dimensioning an array on the Spectrum, the last number in the statement defines the length of each element in the array. For example, DIM a$(3,2,20) dimensions a three-by-two element array, with each element having a fixed length of 20 characters. If we assign an element in the array to a string with less than 20 characters, then the difference is made up by adding spaces to the end of the string. This wastes precious space in memory. Therefore, to insert Spectrum string-array variables into sentences, we must first of all remove any trailing spaces. Spectrum users should type in the following routine to do this in the Haunted Forest listing:

```
7000 REM **** SPECTRUM TRUNCATE ****
7010 FOR I=LEN(A$) TO 1 STEP -1
7020 IF A$(I TO I)<>" " THEN LET N=I:LET I=1
7030 NEXT I
7040 LET S$=S$+A$(TO N)
7050 RETURN
```

For the Digitaya listing, type in these same commands, but use line numbers 8500 to 8550.

This routine truncates A$, removing any trailing spaces, before adding it to S$. Remember that S$ is the string variable used to assemble a sentence for formatting. To use this routine, we must pass the string-array element (to be incorporated into the sentence) to the variable A$, and then call the subroutine. Therefore, we must make the following alterations to Spectrum versions of Haunted Forest and Digitaya:

Haunted Forest:
```
2010 LET S$="YOU ARE ":A$=L$(P):GOSUB7000 :
     GOSUB 5500
2070 LET S$=S$+P$+"A ": A$=V$(I,1):
     GOSUB7000:LET F=1:LET P$=","
```

Digitaya:
```
1450 LET S$="YOU ARE ":A$=L$(P):
     GOSUB8500:GOSUB5880
1500 IF VAL(V$(I,2))=P THEN LET S$=S$+P$+"A "
     :A$=V$(I,1):GOSUB8500:LET F=1:LET P$=" "
```

Digitaya Listing

The structure of Digitaya is similar to Haunted Forest. Add the following lines to the listings given so far in the project:

```
1100 GOSUB6090:REM READ ARRAY DATA
1210 PRINT:INPUT"INSTRUCTIONS":IS$
1120 P=47:REM START POINT
1130 :
1140 REM **** MAIN LOOP STARTS HERE ****
1150 :
1160 MF=0:PRINT
1170 GOSUB1440:REM DESCRIBE POSITION
1180 GOSUB1560: REM LIST EXITS
```

Also include these lines:

```
1220 NN$=IS$:GOSUB 2000:REM MOVE
1230 GOTO 1140:REM RESTART MAIN LOOP
```

Describe Location And Exits

```
1440 REM **** DESCRIBE POSITION S/R ****
1450 SN$="YOU ARE "+LN$(P):GOSUB5880
1460 SN$="YOU SEE "
1470 REM ** SEARCH FOR OBJECT **
1480 F=0:SP$=""
1490 FOR I=1TO8
1500 IF VAL(IV$(I,2))=P THEN SN$=SN$+SP$+"A
"+IV$(I,1):F=1:SP$="  "
1510 NEXTI
1520 IF F=0 THENSN$=SN$+"NO OBJECTS"
1530 GOSUB5880:REM FORMAT
1540 RETURN
1550 :
1560 REM **** LIST EXITS S/R ****
1570 EX$=EX$(P)
1580 NR=VAL(LEFT$(EX$,2))
1590 EA=VAL(MID$(EX$,3,2))
1600 SO=VAL(MID$(EX$,5,2))
1610 WE=VAL(RIGHT$(EX$,2))
1620 IF(NR OR EA OR SO OR WE)=0THEN RETURN
1630 PRINT:SN$="EXITS ARE TO THE "
1640 IF NR<>0 THEN SN$=SN$+"NORTH "
1650 IF EA<>0 THEN SN$=SN$+"EAST "
1660 IF SO<>0 THEN SN$=SN$+"SOUTH "
1670 IF WE<>0 THEN SN$=SN$+"WEST "
1675 GOSUB 5880:REM FORMAT
1680 PRINT:RETURN
```

Move To Subroutine

```
2000 REM **** MOVE S/R ****
2010 MF=1:REM MOVE FLAG SET
2020 DR$= LEFT$(NN$,1)
2030 IFDR$<>"N"ANDDR$<>"E"ANDDR$<>"S"ANDDR$<>
"W"TH EN2100
2040 IF DR$="N" AND NR<>0 THEN P=NR:RETURN
2050 IF DR$="S" AND SO<>0 THEN P=SO:RETURN
2060 IF DR$="E" AND EA<>0 THEN P=EA:RETURN
2070 IF DR$="W" AND WE<>0 THEN P=WE:RETURN
2080 PRINT"YOU CANT ";IS$
2090 MF=0:RETURN
2100 REM NOUN NOT OK
2110 PRINT"WHAT IS ";NN$;" ?"
2120 MF=0:RETURN
```

Basic Flavours

Spectrum:
Throughout both games listings, replace EX$() with E$(), EX$ with X$, SN$ with S$, IS$ with T$, LN$() with L$(), NN$ with R$, SP$ with P$, DR$ with D$. For the Digitaya listing, substitute the following lines:

```
1580 LET NR=VAL(X$(TO 2))
1590 LET EA=VAL(X$(3 TO 4))
1600 LET SO=VAL(X$(5 TO 6))
1610 LET WE=VAL(X$(7 TO))
2020 LET D$=R$(TO 1)
```

For the Haunted Forest listing, substitute the following lines:

```
210 RANDOMISE:P=INT(RND(1)*10+1)
2320 LET NR=VAL(X$(TO 2))
2330 LET EA=VAL(X$(3 TO 4))
2340 LET SO=VAL(X$(5 TO 6))
2350 LET WE=VAL(X$(7 TO))
3520 LET D$=R$(TO 1)
```

BBC Micro:
Substitute the following line in the Haunted Forest listing:

```
210 P=RND(10)
```