



will start on a new line). In addition, the line counter, LC, is reset to the length of the new word.

Now let's see how this subroutine works in practice. The routine scans through the sentence to be formatted, searching for a space. When a space is found, the characters between it and the last space found are designated as forming a new word. The routine is, effectively, looking ahead one word from that which is being PRINTed. The routine checks if the maximum wordlength has been exceeded when the new word is added to the screen line. If so, the routine causes a new line to be started. Thus, word splits over the end of the lines are avoided. The addition of " DUMMY " to the end of the sentence is important, as this provides a last word to be stored in NWS. The spaces around " DUMMY " are significant: the former marking it as a separate word and the latter providing a final space to be detected by the routine.

Let's take as our example, the sentence 'Mary had a little lamb its fleece was white as snow.' The screen width we will use is 40 characters wide. If the sentence were unformatted, the word 'white' would be split in two, with the letters 'ite' starting a new line. The formatting routine, however, takes the sentence two words at a time. If we consider the two words preceeding 'white', then 'fleece' would be stored in OWS and 'was' in NWS. Having checked that the counter, LC, does not exceed 40, OWS is PRINTed, followed by a semi-colon; 'was' is then transferred from NWS to OWS and the routine continues to scan the sentence, and finds the word 'white'. At this stage, the counter LC exceeds 40, indicating that 'white', falls over a line break. In this situation, OWS (now containing the word 'was') is still PRINTed but without a semi-colon. In addition, the counter LC is reset to the number of characters in this word. The word 'white' is transferred to OWS, for subsequent PRINTing on a new line.

## TESTING THE ROUTINE

In order to test the routine, we will use it format and display the initial description of the story. We can assemble a sentence of up to 248 characters, using the variable SNS, and call the formatting subroutine. Type in the following lines:

```
1000 REM **** STORY SO FAR S/R ****
1010 SNS="WELCOME TO THE HAUNTED FOREST"
1020 GOSUB5500:REM FORMAT
1030 PRINT
1040 SNS="AS YOU AWAKE FROM A DEEP SLEEP, THE "
1050 SNS=SNS+"FOREST FLOOR FEELS SOFT AND DRY. "
1060 SNS="YOU DO NOT KNOW HOW YOU CAME TO BE HERE "
1070 SNS=SNS+"BUT KNOW THAT YOU MUST FIND THE "
1080 SNS=SNS+"VILLAGE ON THE EDGE OF THE WOOD TO "
1090 SNS=SNS+"REACH SAFETY."
1100 GOSUB5500:REM FORMAT
1110 PRINT
1120 SNS="YOU LOOK AROUND, TRYING TO GET YOUR BEAR
INGS."
1130 GOSUB5500:REM FORMAT
1140 PRINT:PRINT"PRESS ANY KEY TO START"
1150 GET A$:IF A$="" THEN 1150
1160 PRINTCHR$(147):REM CLEAR SCREEN
1170 RETURN
```

We then need to call the 'Story So Far' subroutine using these lines:

```
205 GOSUB 1000:REM STORY SO FAR
990 END
```

## Digitaya Listings

```
1110 GOSUB1250:REM STORY SO FAR
1270 END

1290 REM **** STORY SO FAR ****
1300 SNS="WELCOME TO 'DIGITAYA'"
1310 GOSUB5500:REM FORMAT
1320 PRINT
1330 SNS="AS THE MACHINE HUMS QUIETLY, YOU LOOK
AROUND."
1340 SNS=SNS+" TO THE NORTH AND SOUTH STRETCHES
A WIDE HIGHWAY."
1350 SNS=SNS+" YOUR MISSION IS TO FIND THE
MYSTERIOUS DIGITAYA"
1360 SNS=SNS+" AND CARRY IT TO SAFETY THROUGH
ONE OF THE OUTPUT PORTS."
1370 SNS=SNS+"... BUT WHICH ONE ?"
1380 GOSUB5500
1390 PRINT:PRINT"PRESS A KEY TO START"
1400 GET A$:IF A$="" THEN 1400
1410 PRINTCHR$(147):REM CLEAR SCREEN
1420 RETURN

5880 REM **** FORMAT PRINTING S/R ****
5890 LC=0: REM CHAR/LINE COUNTER
5900 OC=1: REM OLD COUNT
5910 OWS="":REM OLD WORD
5920 LL=40:REM SCREEN LINE LENGTH
5930 SNS=SNS+" DUMMY "
5940 PRINT
5950 FOR C=1 TO LEN(SNS)
5960 LC=LC+1
5970 IF MID$(SNS,C,1)="" THEN GOSUB6020
5980 NEXT C
5990 PRINT
6000 RETURN
6010 :
6020 REM **** END OF LINE CHECK S/R ****
6030 NWS=MID$(SNS,OC,C-OC+1)
6040 IF LC<LL THEN PRINTOWS:GOTO6060
6050 PRINTOWS:LC=LEN(NWS)
6060 OC=C+1:OWS=NWS
6070 RETURN
```

## Basic Flavours

### Spectrum:

For the Digitaya listing, make the following changes to the Formatting Routine:

```
Replace SNS by SS, OWS by OS, NWS by NS
5920 LET LL=32:REM SCREEN LENGTH LINE
5970 IF SS(C TO C)="" THEN GOSUB 6020
6030 LET NS=SS (OC TO C)
```

In the Story So Far subroutine, replace SSN by SS

```
1400 IF INKEYS="" THEN 1400
1410 CLS
```

For the Haunted Forest listing, replace the same string variable names, and change these lines:

```
5540 LET LL=32:REM SCREEN LINE LENGTH
5590 IF SS (C TO C)="" THEN GOSUB 5800
5810 LET NS=SS (OC TO C)
```

and

```
1150 IF INKEYS="" THEN 1150
1160 CLS
```

### BBC Micro:

For the Story So Far subroutine, the following changes must be made to Digitaya:

```
1095 MODE 1
1400 AS=GETS
1410 CLS
```

and Haunted Forest:

```
1160 CLS
```