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Applesoft BASIC: Right-justifying columns of numbers

Many users want their Applesoft BASIC codes to print a right-justified column of numerals with the same number of decimal places, usually two. Beginning at line 1000, the subroutine in this sample program formats the numerals of the string variable X\$ before line 140 prints it. To specify the format, line 1020 assigns a decimal value to the numeric variable F. The value 8.2 specifies a format of 2 decimal places and 8 total characters (digits, decimal point, sign, and leading spaces). The subroutine rounds the number in X to the desired number of decimal places indicated by the number to the right of the decimal point in F. Then the subroutine pads X\$ with spaces until the string is the length indicated by the number to the left of the decimal point.

```
100 HOME: PRINT "NORMAL", "FORMATTED"
110 FOR I = 1 TO 5
120 READ X: PRINT X,
130 GOSUB 1000
140 PRINT X$
150 NEXT I
200 DATA 1, -3, .2, 17, 450
300 END
1000 REM PRINT FORMATTING
1010 REM
1020 F = 8.2: REM FORMAT CONTROL
1030 TC = INT (F): REM TOTAL CHARACTERS
1040 DP = VAL ( RIGHT$ ( STR$ (F), 1)): REM DECIMAL PLACES
1050 X = INT (10 ^ DP * X + .5) / (10 ^ DP)
1060 X$ = STR$ (X)
1070 FOR JJ = 1 TO LEN (X$)
1080 IF MID$ (X$, JJ, 1) = "." THEN 1110: REM LOOK FOR .
1090 NEXT JJ
1100 X$ = X$ + "."
1110 IF ( LEN (X$) - JJ) < DP THEN X$ = X$ + "0": GOTO 1110
1120 IF LEN (X$) < TC THEN X$ = " " + X$: GOTO 1120
1200 RETURN
```

Apple Technical Communications

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