

SGN

SGN is a function which gives the sign of a number. Its value is 1, 0 or -1, depending on whether its argument is positive, zero or negative. For example:

```
PRINT SGN (1)
1
OK
PRINT SGN (0)
0
OK
PRINT SGN (-1)
-1
OK
PRINT SGN (-100)
-1
OK
PRINT SGN (#324)
1
OK
```

MOD

The MOD operator computes the remainder of the integer division operation. To see how MOD works (in Extended XYBASIC; in Integer XYBASIC you should use / in place of \ in line 20) try the following program.

```
NEW
OK
10 INPUT "A, B = " A, B
20 PRINT A; " \ "; B; "="; A \ B
30 PRINT A; " MOD "; B; "="; A MOD B
40 GOTO 10
RUN
A, B = ? 10,5
10 \ 5 = 2
10 MOD 5 = 0
A, B = ? 23,7
23 \ 7 = 3
23 MOD 7 = 2
A, B = ? 5,2
5 \ 2 = 2
5 MOD 2 = 1
A, B = ? ^C
BREAK AT LINE 10
OK
```

The equality $A \text{ MOD } B = A - (A \setminus B) * B$ will help you understand the result of MOD, especially when the value of A or B is negative. If the value of B is zero, an OV (OVerflow) error will occur.