

SENSE

The SENSE function allows you to find the value of a single bit of an input port, and might for example be used to find the status of a switch attached to a port. To find the status of bit 4 on port 7, just say

```
PRINT SENSE (7,4)
```

or

```
LET X = SENSE (7,4)
```

The latter command assigns the value (0 or 1) of bit 4 on port 7 to the variable X. A BY (BYte) error will occur if the first argument is not between 0 and 255, since the 8080 only has 256 input ports. Try the following program; note that the result of RUNNING it will vary depending on the use of port 5.

```
NEW
OK
10 FOR I = 0 TO 7
20 PRINT SENSE(5,I);
30 NEXT I
RUN
 1  0  1  1  0  0  0  0
OK
```

WAIT

Sometimes you want your program to wait (suspend processing) until an external event signals it to continue. This event could be a switch closing, a temperature exceeding a given value, or an electronic device indicating that it is through with a task. The WAIT command allows you to do this, WAITing until a given input port has a given value before executing the next command in your program. For example, if you say

```
WAIT 10,0
```

then XYBASIC waits until the value on input port 10 is 0 before responding with its OK prompt. The optional third argument of WAIT is a mask which lets you ignore the values of bits you don't care about when trying to match the value. Bits set to 1 in the mask are ignored, so

```
WAIT 10,0,&11111100
```

will wait until bits 0 and 1 of input port 10 are 0, ignoring bits 2-7. Notice that the mask byte contains 0 in bits which are significant and 1 in bits which are ignored, not vice versa.

The optional fourth argument of WAIT is \$ (dollar sign), which tells XYBASIC that the WAIT should end if the value of ANY unmasked bit on the port matches the given value. Thus

```
WAIT 10,&10,&11111100,$
```

tells XYBASIC to WAIT until either bit 0 of input port 10 is 0, or bit 1 of