

# I/O on the 8051

The 8051 has 4 GPIO 8-bit ports.

## Output

To write an output to a port, just move some data to that port's register.

```
mov P1, A ; Output the contents of the accumulator on port 1.
```

Individual bits of ports can also be set or cleared.

```
clr P1.0 ; Output high on the 0th pin of port 1.  
setb P1.0 ; Output low on the 0th pin of port 1.
```

## Input

**Before reading from an input pin, the pin MUST be set to high in order to prevent a short circuit.**

After setting the pins to high, the inputs can be read by reading the port's register.

```
mov P1, #0FFh ; Set all pins of port 1 to high.  
mov A, P1 ; Move the input data on port 1 to the accumulator.
```

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