GPIO (General Purpose Input Output) Lines

Digital signal can only take one of two states:

- on (1, high)
- off (0, low)

A typical example is the control of an LED. If we connect one end of the LED to a GPIO line and the other end (via a current limiting resistor) to ground, then we can, by programming the GPIO line, switch the LED on or off. Of course the GPIO line must be an **output** line.

Likewise we can read the state of a switch if one end of the switch is connected to Vcc (the supply voltage) via a pull-up resistor while the other end is connected to ground. If the switch is open we will read a *high* signal, while we will read a low signal when the switch is closed. Of course, the GPIO signal must be programmed as **input** in this case.