

Switches that are of low(0) are indicated to be in the down/off position.  
 Switches that are of the high(1) are indicated to be in the up/on position.

Switch 1	Switch 2	Output
0	0	1
0	1	1
1	0	1
1	1	0

For the LED, low(0) indicates off, and high(1) indicates on.

Switch 1	Switch 2	Output
0	0	1
0	1	1
1	0	1
1	1	1

For the LED, low(0) indicates off, and high(1) indicates on.

1. There was a difference between the two simulations. In the first simulation the LED was only off (0) when switches 1 and 2 were both in the on (1) position. In the second simulation, the LED was constantly on no matter the position the switches were in.

#### Single Pole Question

A pull-up resistor connects any unused input pins to the VCC and a pull-down resistor connects any unused input pins to GROUND. So if you want a signal to be VCC you would use a pull up resistor so that any unused input pins are connected to the VCC. Likewise, if you wanted the signal to be GROUND you would use a pull-down resistor so that any unused pins will then be connected to the GROUND.