

A10: Use a Switch to Control all 5 LEDs

1001-act10 Introduction to Electronics

Summary

This activity builds on the previous simple LED circuit by expanding the button to be able to control all five of the TOP LEDs at once.

What You Need

- JackBord
- JackBord TOP
- 10 x 10cm Jumper Wires

Instructions

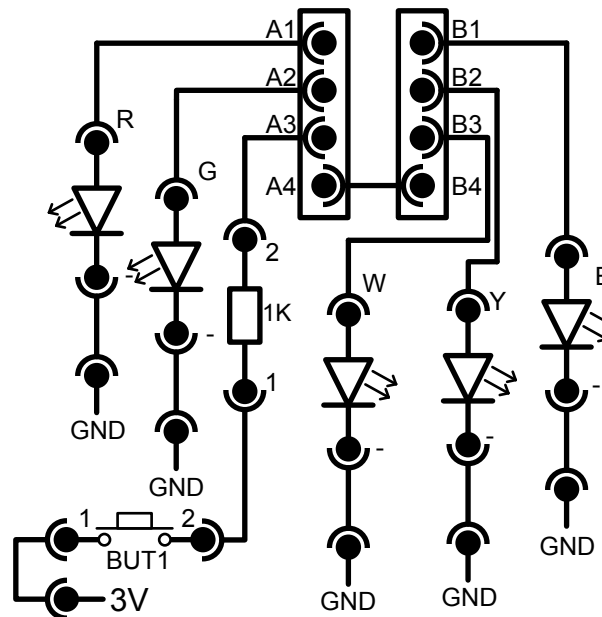
1. First, make sure that the JackBord TOP is already connected to the JackBord power pins and the two power LEDs are on (Check 1001-act5 if not). Turn off the JackBord.
2. Recreate the circuit in act9.
3. Instead of connecting the power directly to the 1K, you will instead insert a button in between. Specifically, from the 3V pin, connect to pin 1 on BUT1. Then from pin 2 of BUT1, connect to pin of the 1K resistor.
4. Now when you turn the JackBord on and push the button, the LEDs will turn on. When the button is released, they will turn off.
5. As with act9, if only 3 LEDs light up, switch the power input from 3V to 5V.

NOTE

USER pins refer to the pins on the bottom half of the top. They are connected in columns of 4, but unconnected horizontally. They are referred to by grid reference. I.e. USER pin E2 refers to the second pin down in the E column.



Circuit Diagram



TOP 3V pin	BUT1 pin 1
BUT1 pin 2	1K pin 1
1K pin 2	USER pin A3
USER pin A1	Red LED pin R
USER pin A2	Green LED pin G
USER pin A4	USER pin B4
USER pin B1	Blue LED pin B
USER pin B2	Yellow LED pin Y
USER pin B3	White LED pin W
Red LED pin -	Ground
Green LED pin -	Ground
White LED pin -	Ground
Yellow LED pin -	Ground
Blue LED pin -	Ground

The table above contains the connections in the circuit diagram. Simply connect a jumper from the left column pins to the corresponding right column pin in the same row.

Completed Circuit

Here you can see the modified part of the circuit from act9. The rest is as shown in act9.

