Name:
Date:

Circuit #5 Push Buttons

1.

How is this circuit, or a circuit like it, used in everyday life? Provide at least three examples.

Can you turn your LED on and off using both buttons?
Great. Upload Circ07Expansion Code to your RedBoard and add an RGB LED to pins 9, 10 and 11. Check the code if you are unsure which leads go to which pins.

2.

The buttons in your circuit now adjust the variable "RGBValue" either up or down. What are the upper and lower parameters of "RGBValue"?

3.

With the code as is, what happens if you press the "down" button while pressing the "up" button? Why do you think this is?

4.

What could you add to the code to fix this bug?

5.

In the code below underline the command that happens when the button is not being pressed.

```
void loop()
{
  buttonState = digitalRead(buttonPin);

  if (buttonState == HIGH) {
    digitalWrite(ledPin, HIGH);
  }
  else {
    digitalWrite(ledPin, LOW);
  }
}
```

6.

Explain the difference between = and ==.

7.

Buttons are everywhere, however it is possible to substitute other user interface components for buttons, list at least three components that you could switch with a button in some way.

8. Draw a logic flow chart of the expanded circuit here:

9. In the space below draw the symbols for a two way switch (SPST), a three way switch (SPDT), and a double pole switch (DPST).