Taking button inputs

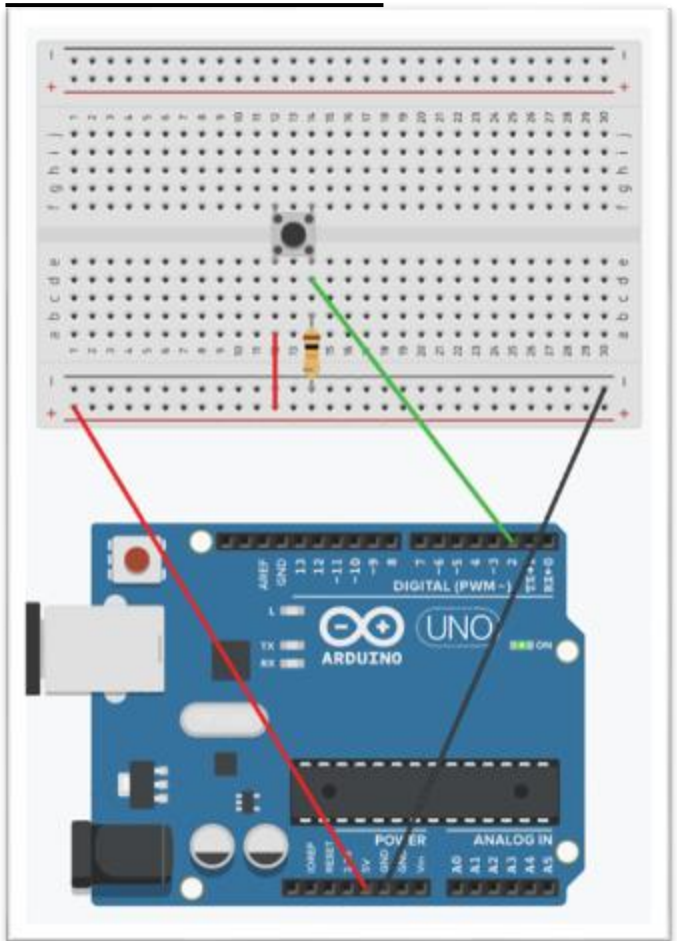
Y9 Digital Electronics Lesson 2

Task 1: Temperature Readings

NORD ANGLIA INTERNATIONAL SCHOOL HONG KONG

The circuit below creates a loop where power can flow from 5v, through the button and then to pin 2 on the Arduino. The circuit is complete when the button is pressed. Make the circuit!

The Circuit



The Code

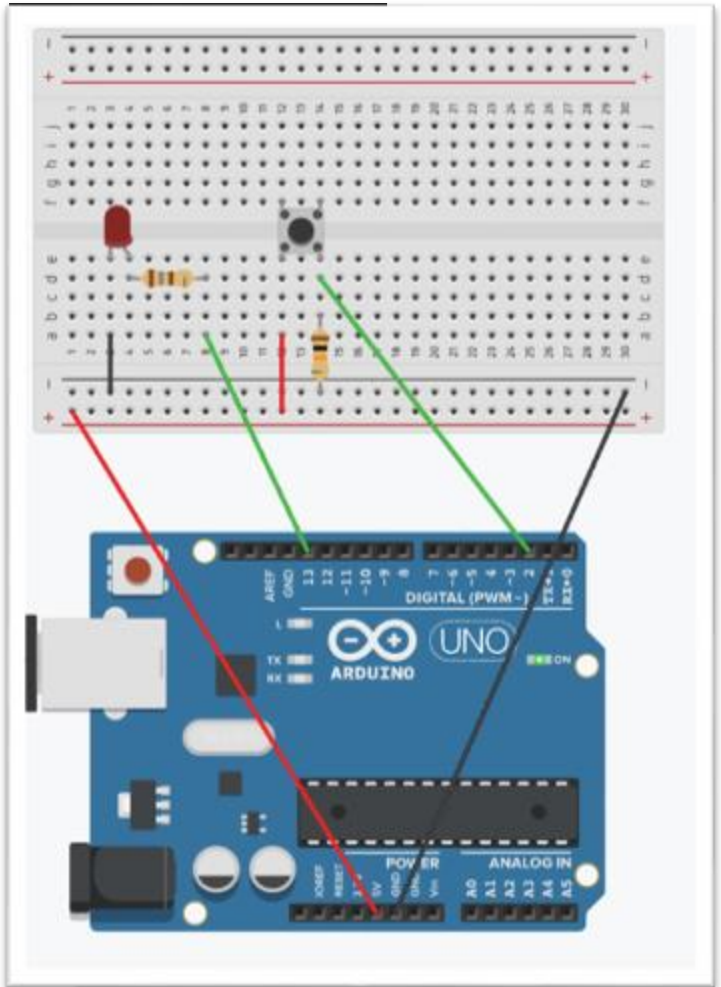
```
1
2  int buttonPin = 2;      // Button connected to pin 2
3
4  void setup() {
5    Serial.begin(9600);
6    pinMode(buttonPin, INPUT);     // Button is an input
7  }
8
9  void loop() {
10   int buttonState = digitalRead(buttonPin); // Read button state
11
12   if (buttonState == HIGH) {     // If button is pressed
13     Serial.println("Button Pressed");
14   }
15 }
16
```

Task 2: Adding an LED output

NORD ANGLIA INTERNATIONAL SCHOOL HONG KONG

Add an LED which the Arduino can turn on when it gets a button reading.

The Circuit



The Code

```
1  int ledPin = 13;          // LED connected to pin 13
2  int buttonPin = 2;        // Button connected to pin 2
3
4  void setup() {
5    pinMode(ledPin, OUTPUT);       // LED is an output
6    pinMode(buttonPin, INPUT);     // Button is an input
7  }
8
9  void loop() {
10   int buttonState = digitalRead(buttonPin); // Read button state
11
12   if (buttonState == HIGH) {     // If button is pressed
13     digitalWrite(ledPin, HIGH); // Turn LED ON
14   } else {
15     digitalWrite(ledPin, LOW);  // Turn LED OFF
16   }
17 }
```

Task 3: Independent Challenge

NORD ANGLIA INTERNATIONAL SCHOOL HONG KONG

In the current program, the LED turns on when your holding the button.

Can you edit your code so the LED stays on when the button is pressed and turns off when it is pressed again?