

# Embedded Systems Lab 1

Abdelrahman Khayri Saad - 1905906

Abdelrahman Adel Abdelfattah Abdelraof - 17012296

## Components

Switch
x2 LED
x2 Resistors

## Code

```
1  int switch_pin = 2, green_led = 12, red_led = 13;
2
3  void setup() {
4      pinMode(switch_pin, INPUT);
5      pinMode(green_led, OUTPUT);
6      pinMode(red_led, OUTPUT);
7      Serial.begin(9600);
8  }
9
10 void loop() {
11     int switch_state = debounce(switch_pin);
12     digitalWrite(green_led, switch_state);
13     digitalWrite(red_led, !switch_state);
14 }
15
16 boolean debounce(int pin){
17     int state, prev_state;
18     prev_state = digitalRead(pin);
19     for(int i=0; i < 10; i++){
20         delay(1);
21         state = digitalRead(pin);
22         if(state != prev_state) i = 0;
23         prev_state = state;
24     }
25     return state;
26 }
```

# Circuit Diagram

