**Task 2**

int switchstate = 0;

void setup() {

// declare the LED pins as outputs

pinMode(3, OUTPUT);

pinMode(4, OUTPUT);

pinMode(5, OUTPUT);

// declare the switch pin as an input

pinMode(2, INPUT);

}

void loop() {

// read the value of the switch

switchstate = digitalRead(2);

if (switchstate == LOW) { // button is not pressed

digitalWrite(3, HIGH); // green LED

digitalWrite(4, LOW); // red LED

digitalWrite(5, LOW); // red LED

}

else { // button is pressed

digitalWrite(3, LOW);

digitalWrite(4, LOW);

digitalWrite(5, HIGH);

delay(**500**); // wait for a **half second**

// toggle red LEDs

digitalWrite(4, HIGH);

digitalWrite(5, LOW);

delay(**500**); // wait for a **half second**

}

} // go back to the beginning of the loop

**Task 3**

int switchstate = 0;

void setup() {

// declare the LED pins as outputs

pinMode(3, OUTPUT);

pinMode(4, OUTPUT);

pinMode(5, OUTPUT);

// declare the switch pin as an input

pinMode(2, INPUT);

}

void loop() {

// read the value of the switch

switchstate = digitalRead(2);

if (switchstate == LOW) { // button is not pressed

digitalWrite(3, HIGH);

digitalWrite(4, HIGH);

digitalWrite(5, HIGH);

delay(500); // wait for a half second

// toggle all LEDs

digitalWrite(3, LOW);

digitalWrite(4, LOW);

digitalWrite(5, LOW);

delay(500); // wait for a half second

}

else { // button is pressed

digitalWrite(3, LOW); // green LED

digitalWrite(4, LOW); // red LED

digitalWrite(5, LOW); // red LED

}

} // go back to the beginning of the loop

**Task 4**

int switchstate1 = 0;

int switchstate2 = 0;

void setup() {

// declare the LED pins as outputs

pinMode(3, OUTPUT);

pinMode(4, OUTPUT);

pinMode(5, OUTPUT);

// declare the switch pin as an input

pinMode(2, INPUT); // button S2

pinMode(1, INPUT); // button S1

}

void loop() {

// read the value of the switch

switchstate2 = digitalRead(2);

switchstate1 = digitalRead(1);

if (switchstate1 == LOW || switchstate2 == LOW) { // button is not pressed

digitalWrite(3, HIGH);

digitalWrite(4, HIGH);

digitalWrite(5, HIGH);

delay(500); // wait for a half second

// toggle all LEDs

digitalWrite(3, LOW);

digitalWrite(4, LOW);

digitalWrite(5, LOW);

delay(500); // wait for a half second

}

else { // button is pressed

digitalWrite(3, LOW); // green LED

digitalWrite(4, LOW); // red LED

digitalWrite(5, LOW); // red LED

}

} // go back to the beginning of the loop