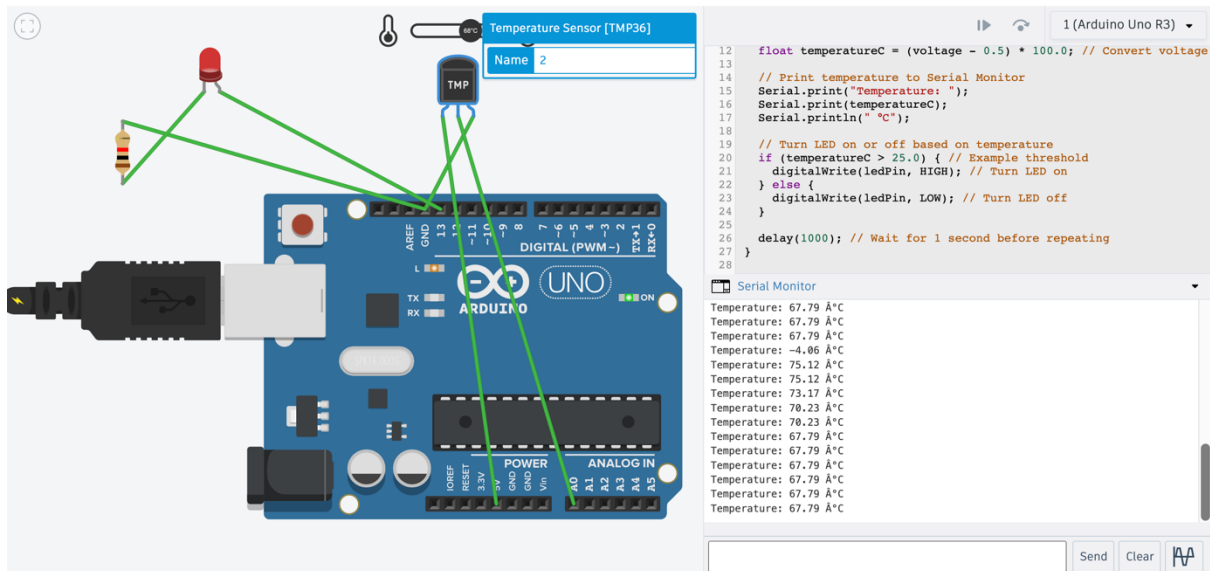


Vivaan Fernandes
S222227151

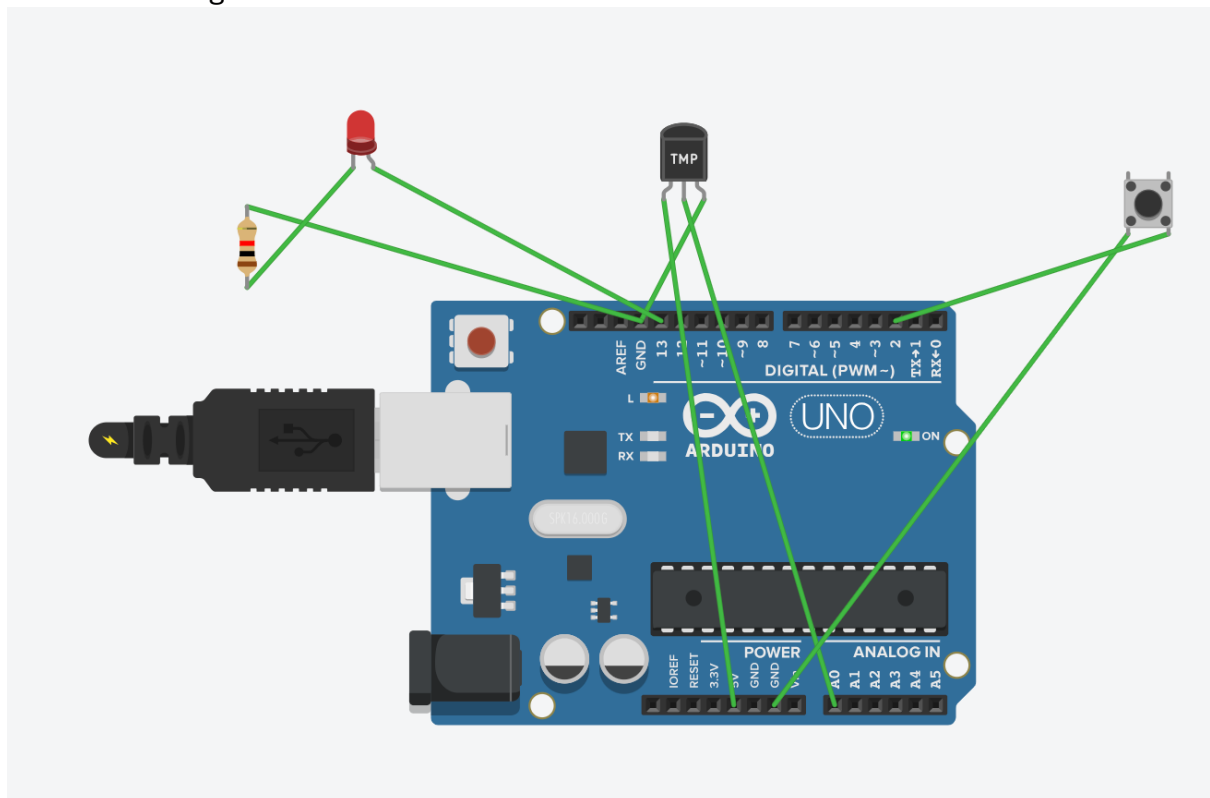
SIT315 – Interrupt driven board

Github module 2 folder link:

[https://github.com/VivaanFernandes/315/tree/main/Module2\(interrupt\)](https://github.com/VivaanFernandes/315/tree/main/Module2(interrupt))



Schematic Diagram:



Serial monitor:

1 (Arduino Uno R3) ▾

⏮

⏪

⏩

⏭


```
3 const int interruptPin = 2; // Interrupt pin
4
5 volatile bool tempHigh = false; // Flag to check temperature
6
7 void setup() {
8     pinMode(ledPin, OUTPUT); // Set LED pin as output
9     pinMode(interruptPin, INPUT_PULLUP); // Set interrupt pin as input
10    Serial.begin(9600); // Initialize serial communication
11
12    // Attach interrupt to pin 2, trigger on FALLING edge
13    attachInterrupt(digitalPinToInterrupt(interruptPin), checkTemperature, FALLING);
14 }
15
16 void loop() {
17     // Main loop does nothing, all work done in ISR
18 }
19
20 void checkTemperature() {
```

Serial Monitor ▾

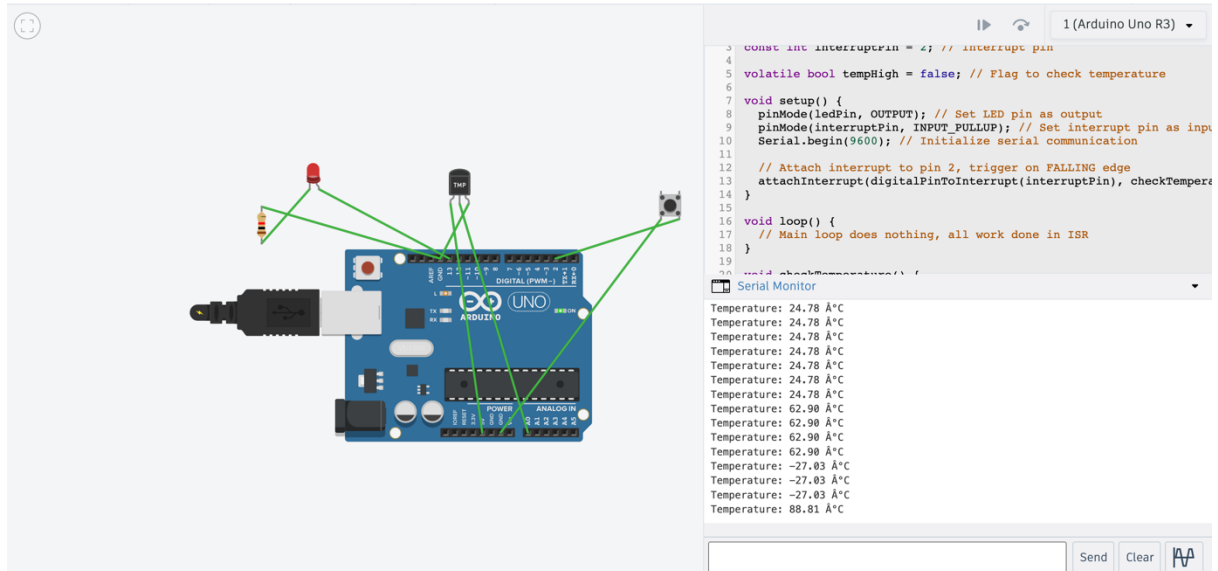
Temperature: 24.78 Â°C
Temperature: 24.78 Â°C
Temperature: 24.78 Â°C
Temperature: 24.78 Â°C
Temperature: 24.78 Â°C
Temperature: 24.78 Â°C
Temperature: 24.78 Â°C
Temperature: 62.90 Â°C
Temperature: 62.90 Â°C
Temperature: 62.90 Â°C
Temperature: 62.90 Â°C
Temperature: -27.03 Â°C
Temperature: -27.03 Â°C
Temperature: -27.03 Â°C
Temperature: 88.81 Â°C

Send

Clear



Board with LED on:

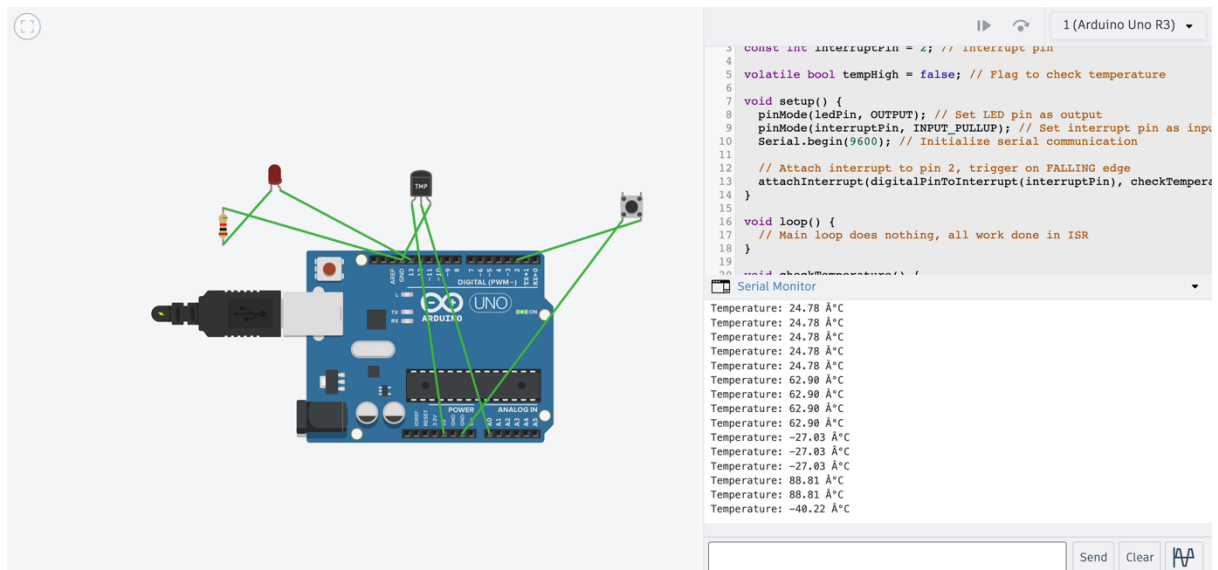


```
1 // Arduino Interrupt - Temperature Checker
2
3 const int interruptPin = 2; // interrupt pin
4
5 volatile bool tempHigh = false; // Flag to check temperature
6
7 void setup() {
8   pinMode(ledPin, OUTPUT); // Set LED pin as output
9   pinMode(interruptPin, INPUT_PULLUP); // Set interrupt pin as input
10  Serial.begin(9600); // Initialize serial communication
11
12  // Attach interrupt to pin 2, trigger on FALLING edge
13  attachInterrupt(digitalPinToInterrupt(interruptPin), checkTemperature, FALLING);
14 }
15
16 void loop() {
17   // Main loop does nothing, all work done in ISR
18 }
19
20 void checkTemperature() {
21   // ... (ISR code) ...
22 }
```

Serial Monitor

Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 62.90 °C
Temperature: 62.90 °C
Temperature: 62.90 °C
Temperature: 62.90 °C
Temperature: -27.03 °C
Temperature: -27.03 °C
Temperature: -27.03 °C
Temperature: 88.81 °C

Board with LED off:



```
1 // Arduino Interrupt - Temperature Checker
2
3 const int interruptPin = 2; // interrupt pin
4
5 volatile bool tempHigh = false; // Flag to check temperature
6
7 void setup() {
8   pinMode(ledPin, OUTPUT); // Set LED pin as output
9   pinMode(interruptPin, INPUT_PULLUP); // Set interrupt pin as input
10  Serial.begin(9600); // Initialize serial communication
11
12  // Attach interrupt to pin 2, trigger on FALLING edge
13  attachInterrupt(digitalPinToInterrupt(interruptPin), checkTemperature, FALLING);
14 }
15
16 void loop() {
17   // Main loop does nothing, all work done in ISR
18 }
19
20 void checkTemperature() {
21   // ... (ISR code) ...
22 }
```

Serial Monitor

Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 24.78 °C
Temperature: 62.90 °C
Temperature: 62.90 °C
Temperature: 62.90 °C
Temperature: 62.90 °C
Temperature: -27.03 °C
Temperature: -27.03 °C
Temperature: -27.03 °C
Temperature: -40.22 °C