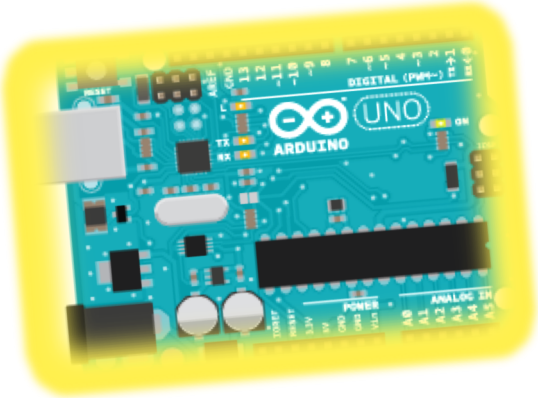
University of Human Development
College of Science and Technology
Information Technology Department

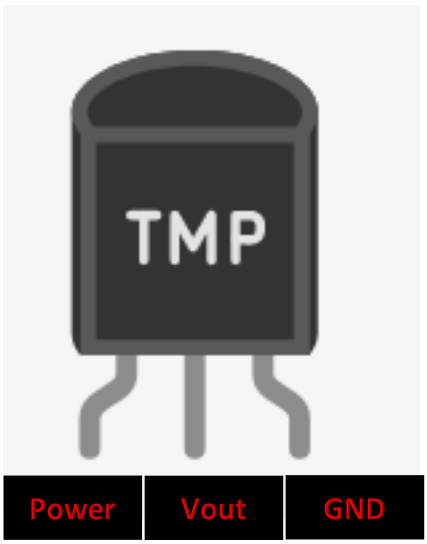
Internet of Things (IoT) Practical
2022 – 2023
Semester 7

Lecturer: *Hiwa Omer Hassan*

Week .8 : Servo, Temperature Sensor 30.10.2022

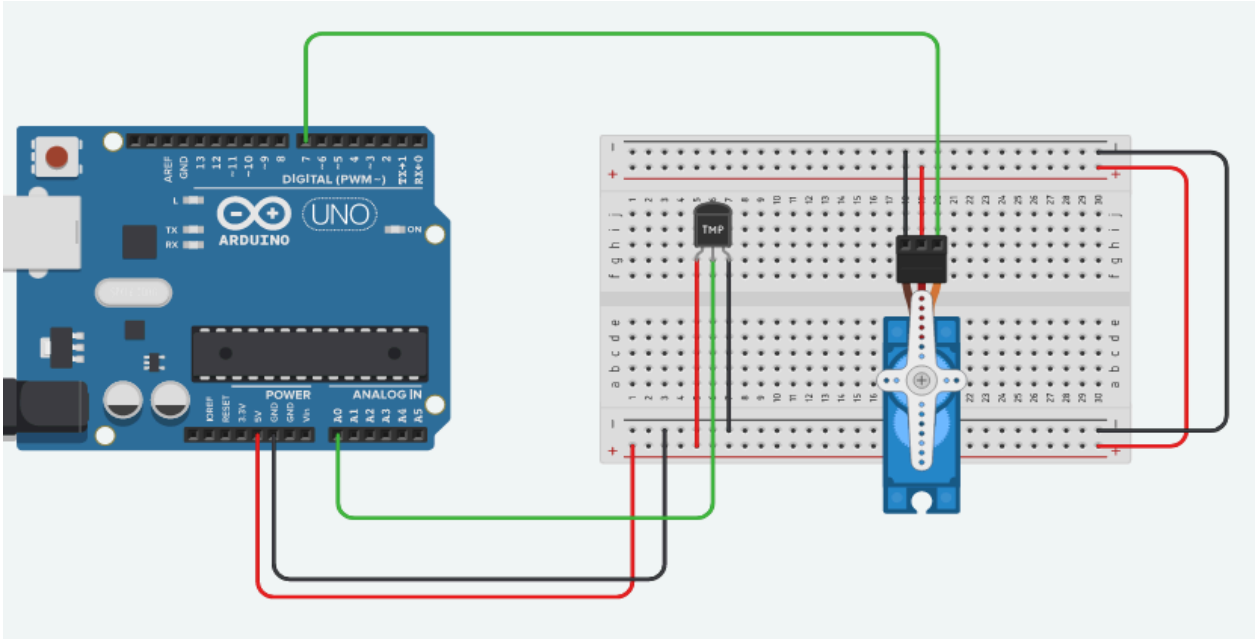


Temperature Sensor



Servo Motor

Exercise .1



Exercise.1 Source Code

```
#include <Servo.h>
// C++ code
//
int sensor_input;
float temp;
Servo myServo;

void setup()
{
 Serial.begin(9600);
 myServo.attach(7);
}
```

```
void loop()
{
 temperature();
 servo();
}

void temperature()
{
  sensor_input = analogRead(A0);
  int c = map(((sensor_input - 20) * 3.04), 0, 1023, -40,
125 );
  Serial.print(c);
  Serial.print(" Celsius  ");
  int f = ((c * 9 ) / 5 + 32);
  Serial.print(f);
  Serial.println(" Fahrenheit");

 // temp = (float)sensor_input / 1024;
 // temp = temp * 5;
 // temp = temp - 0.5;
 // temp = temp * 100;
 // Serial.print(temp);
 // Serial.println(" Celsius");
}

void servo()
{
 myServo.write(0);
 delay(500);
 myServo.write(90);
```

```
 delay(500);
 myServo.write(180);
 delay(500);
 myServo.write(360);
 delay(500);
}
```

Additional Lab activity

Add the Buzzer and Bulb for current project and do the following:

1. If Temperature value > 100 buzzer is on and Bulb is off
2. If Temperature value < 100 buzzer is off and Bulb is on