Ahmedabad University

Sensors, Instrumentation, and Experimentation

Assignment - 2

Section - 3

Submitted to faculty: Prof. Ashok Ranade

Date of Submission: 06th Sept 2021

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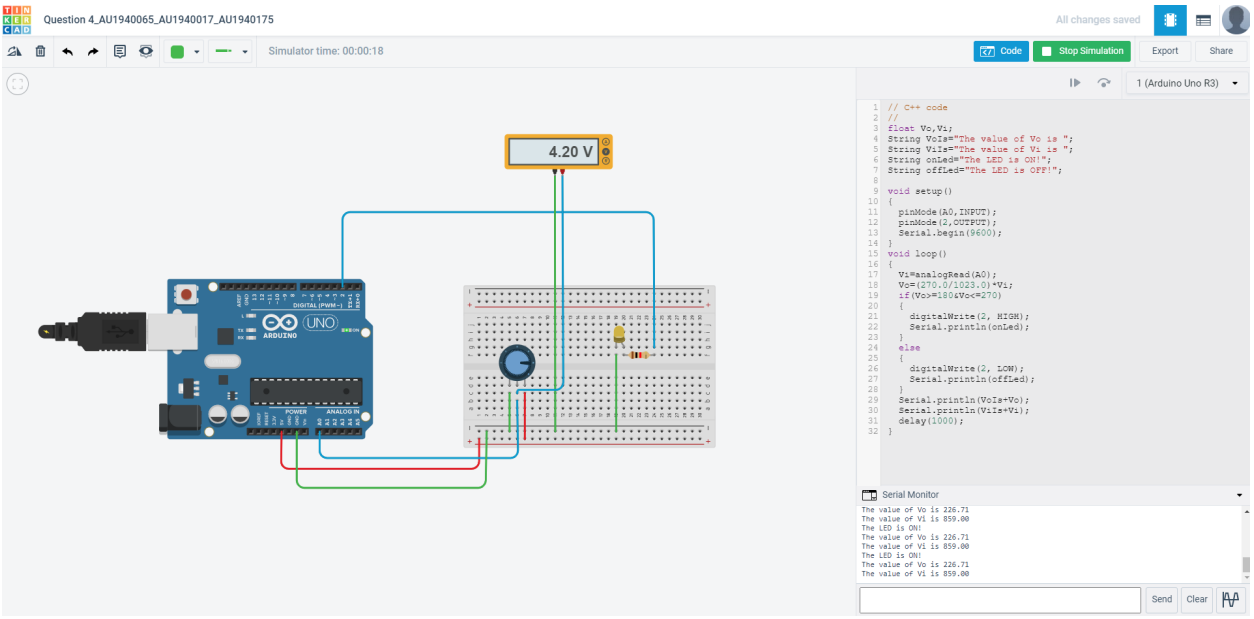
2021-2022 (Monsoon Semester)

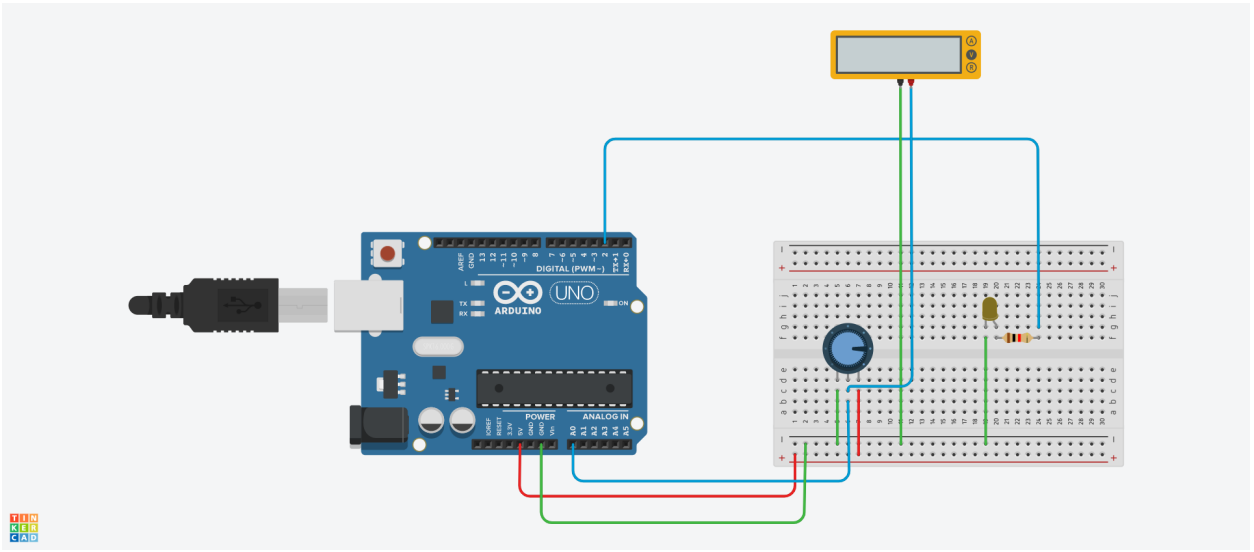
[Tinkercad Link]

We use Analog pin A0 as our Input pin and Digital pin 2 as our Output pin.

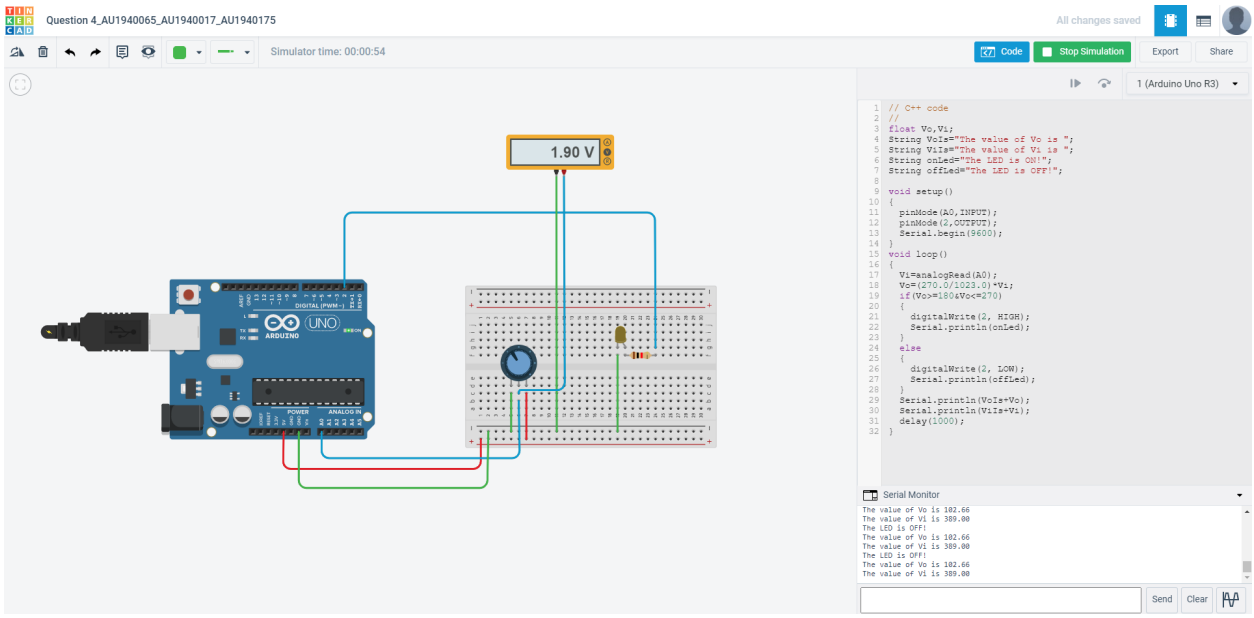
After reading the value of Vi from A0, Vo is calculated.



Then, we add an if condition that sets the Output pin to HIGH or ON when the angle is between 180 and 270 (both inclusive)



Else, the Output pin is set to LOW or OFF; and the LED is turned OFF.



The LED stays off for values less than 180.

```
float Vo,Vi;
String VoIs="The value of Vo is ";
String ViIs="The value of Vi is ";
String onLed="The LED is ON!";
String offLed="The LED is OFF!";

void setup()
{
  pinMode(A0,INPUT);
  pinMode(2,OUTPUT);
  Serial.begin(9600);
}
void loop()
{
  Vi=analogRead(A0);
  Vo=(270.0/1023.0)*Vi;
  if(Vo>=180&Vo<=270)
  {
   digitalWrite(2, HIGH);
    Serial.println(onLed);
  }
  else
  {
   digitalWrite(2, LOW);
    Serial.println(offLed);
  }
  Serial.println(VoIs+Vo);
  Serial.println(ViIs+Vi);
  delay(1000);
}
```