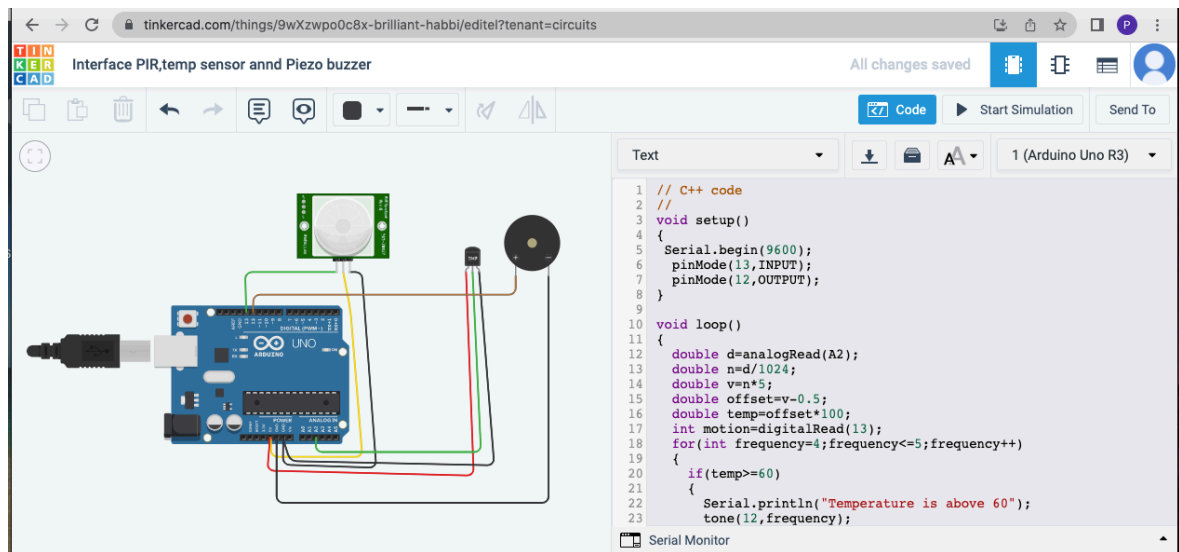


Assignment -1

Assignment Date	20 September 2022
Student Name	S.Priyadarshini
Student Roll Number	111519106123
Maximum Marks	2 Marks

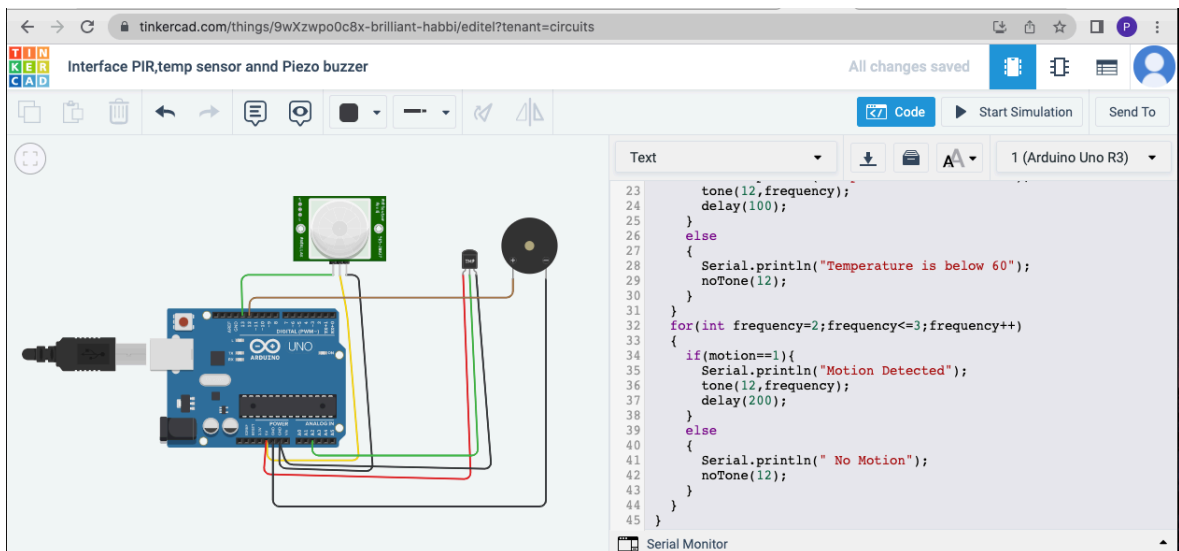
Question-1:

Design a circuit using PIR sensor, Temperature sensor and Piezo buzzer to monitor the room temperature and buzzer when the temperature exceeds above 60 degree Celsius And write a code for it.



The screenshot shows the Tinkercad web interface. On the left, a circuit diagram is displayed with an Arduino Uno R3 connected to a PIR sensor, a temperature sensor (DS18B20), and a piezo buzzer. The PIR sensor is connected to digital pin 13, and the temperature sensor is connected to analog pin A2. The piezo buzzer is connected to digital pin 12. On the right, the C++ code is written in the 'Text' editor:

```
1 // C++ code
2 //
3 void setup()
4 {
5   Serial.begin(9600);
6   pinMode(13,INPUT);
7   pinMode(12,OUTPUT);
8 }
9
10 void loop()
11 {
12   double d=analogRead(A2);
13   double n=d/1024;
14   double v=n*5;
15   double offset=v-0.5;
16   double temp=offset*100;
17   int motion=digitalRead(13);
18   for(int frequency=4;frequency<=5;frequency++)
19   {
20     if(temp>=60)
21     {
22       Serial.println("Temperature is above 60");
23       tone(12,frequency);
24     }
25   }
```



The screenshot shows the Tinkercad web interface with the same circuit diagram as above. The C++ code in the 'Text' editor is updated to include motion detection logic:

```
23   tone(12,frequency);
24   delay(100);
25 }
26 else
27 {
28   Serial.println("Temperature is below 60");
29   noTone(12);
30 }
31 }
32 for(int frequency=2;frequency<=3;frequency++)
33 {
34   if(motion==1){
35     Serial.println("Motion Detected");
36     tone(12,frequency);
37     delay(200);
38   }
39   else
40   {
41     Serial.println(" No Motion");
42     noTone(12);
43   }
44 }
45 }
```



Serial Monitor

Temperature is below 60
Temperature is below 60
No Motion
No Motion
Temperature is below 60
Temperature is below 60
No Motion
No Motion
Temperature is below 60
Temperature is below 60
No Motion
No Motion
Temperature is below 60
Temperature is below 60
No Motion
No Motion
Temperature is below 60
Temperature is below 60
No Motion
No Motion
Temperature is below 60
Temperature is b

Send

Clear

