

ASSIGNMENT 1

1. Alarm should sound in one manner if Temperature is about 60 C

PROGRAM:

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

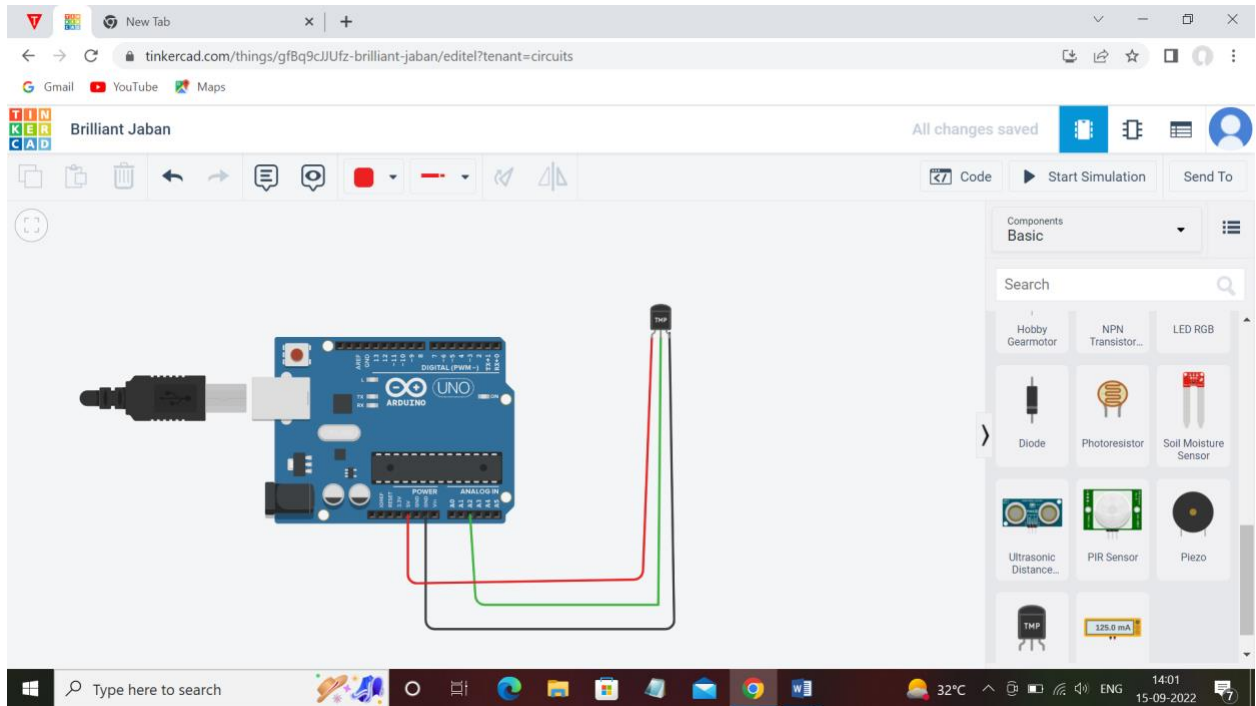
void loop()
{
  double data=analogRead(A1);
  double n=data/1024;
  double volt=n*5;
  double off=volt-0.5;
  double temperature=off*60;
  Serial.print ("Temperature data : ");
  Serial.println(temperature);
}
```

Tinkercad interface showing an Arduino Uno R3 connected to a temperature sensor module. The code in the Serial Monitor is as follows:

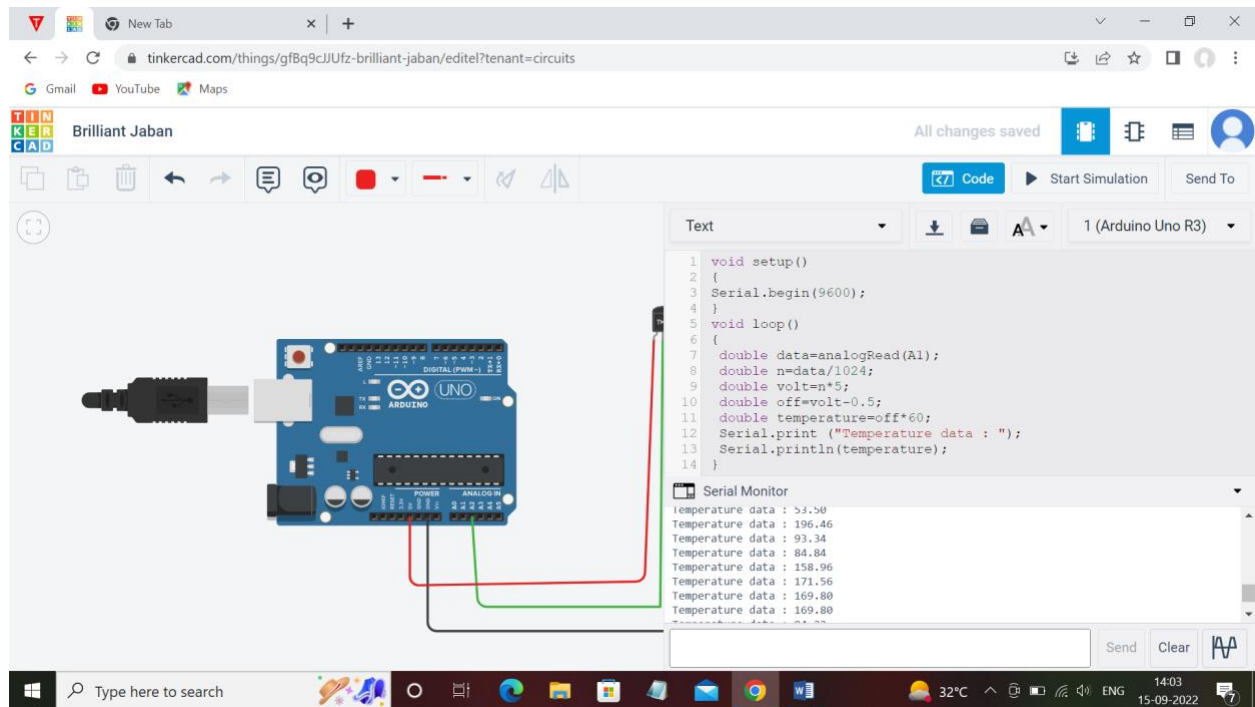
```
1 void setup()
2 {
3   Serial.begin(9600);
4 }
5 void loop()
6 {
7   double data=analogRead(A1);
8   double n=data/1024;
9   double volt=n*5;
10  double off=volt-0.5;
11  double temperature=off*60;
12  Serial.print ("Temperature data : ");
13  Serial.println(temperature);
14 }
```

The interface also displays the Tinkercad logo, the name "Brilliant Jaban", and the status "All changes saved". The bottom status bar shows the system time as 14:02 on 15-09-2022.

CIRCUIT DIAGRAM:



OUTPUT:



The screenshot displays a Tinkercad simulation environment. On the left, an Arduino Uno R3 is connected to a temperature sensor module. The sensor's red wire is connected to the 5V pin, the green wire to the GND pin, and the black wire to the A1 pin. The right side of the interface shows the code editor and the Serial Monitor.

Code:

```
1 void setup()
2 {
3   Serial.begin(9600);
4 }
5 void loop()
6 {
7   double data=analogRead(A1);
8   double n=data/1024;
9   double volt=n*5;
10  double off=volt-0.5;
11  double temperature=off*60;
12  Serial.print ("Temperature data : ");
13  Serial.println(temperature);
14 }
```

Serial Monitor Output:

```
Temperature data : 53.50
Temperature data : 196.46
Temperature data : 93.34
Temperature data : 84.84
Temperature data : 158.96
Temperature data : 171.56
Temperature data : 169.80
Temperature data : 169.80
Temperature data : 169.80
```

The bottom status bar indicates the system temperature is 32°C and the date is 15-09-2022.

2. Alarm should sound in another frequency if motion is detected in PIR sensor

PROGRAM:

```
Int a=0;
```

```
Int b=0;
```

```
Void setup()
```

```
{
```

```
  Serial.begin(9600);
```

```
  pinMode(13, OUTPUT);
```

```
}
```

```
void loop()
```

```
{
```

```
  a=analogRead(A0);
```

```
  b=map(a,0,1023,0,255);
```

```
  Serial.println(b);
```

```
  if(b>100)
```

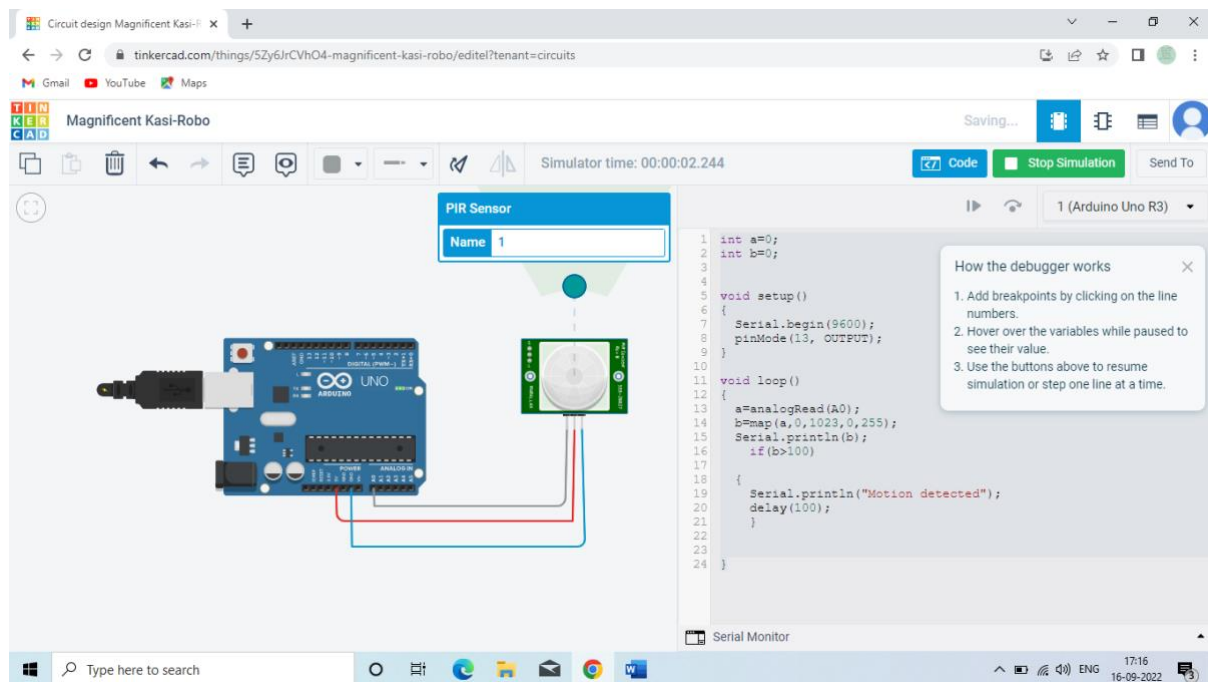
```
{
```

```
  Serial.println("Motion detected");
```

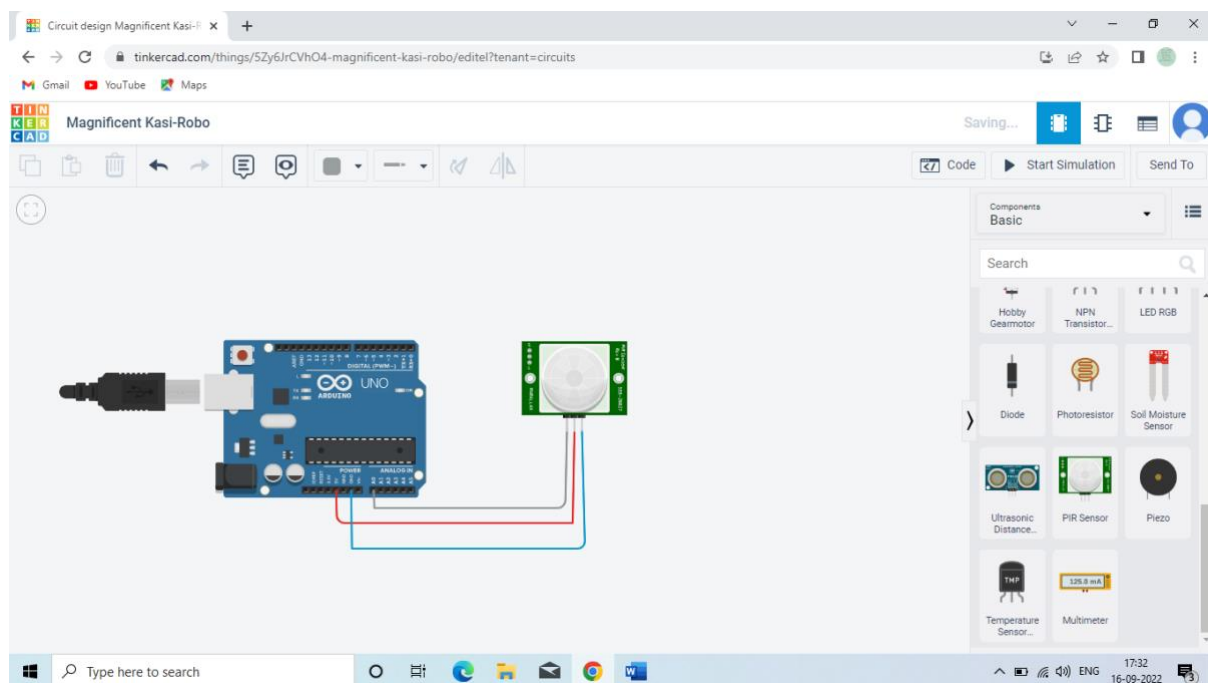
```
  delay(100);
```

```
}
```

```
}
```



CIRCUIT DIAGRAM:



OUTPUT:

