```
/*
Write a program to control the color of the LED by turning 3 different potentiometers. One will be read for the value of Red, one for the value of Green, and one for the value of Blue

Name : Kunal Patil
Roll No : SAI&D76

*/

int REDANALOGPIN = A5;
int BLUEANALOGPIN = A4;
int BLUEANALOG = A3;

int REDPIN = 2;
int GREENPIN = 3;
int BLUEPIN = 4;

int redAnalog,greenAnalog,blueAnalog;
int redValue,greenValue,blueValue;
void setup()
{
  pinMode(2, OUTPUT);
}

void loop()
{
        redAnalog = analogRead(REDANALOGPIN);
        greenAnalog = analogRead(BLUEANALOGPIN);
        blueAnalog = analogRead(BLUEANALOG);

        redValue = map(redAnalog,0,1023,0,255);
        greenValue = map(redAnalog,0,1023,0,255);
        blueValue = map(redAnalog,0,1023,0,255);

        analogWrite(REDPIN,redValue);
        analogWrite(GREENPIN,greenValue);
        analogWrite(BLUEPIN,blueValue);


}
```

```
/*
Write a program read the temperature sensor and send the values to the serial monitor on the
computer

Name : Kunal Patil
Roll No : SAI&D76

*/


int sensorPin = A0;
int sensorInput;
double tempreture;

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

void loop()
{
  sensorInput = analogRead(sensorPin);
  tempreture = (double) sensorInput / 1024;
  tempreture = tempreture * 5;
  tempreture = tempreture - 0.5;
  tempreture = tempreture * 100;
  Serial.println("Tempreture : ");
  Serial.println(tempreture);
  delay(1000);
}
```

```
/*
Write a program so it displays the temperature in Fahrenheit as well as the maximum and
minimum temperatures it has seen

Name : Kunal Patil
Roll No : SAI&D76

*/

int sensorPin = A0;
int sensorInput;
double tempreture;
double minTemp = 125, maxTemp = 0;

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

void loop()
{
  printMinMaxTemp();
          Serial.println("Minimum Tempreture : ");
          Serial.print((minTemp*(9/5)) + 32);
    Serial.println("F");
          Serial.println("Maximum Tempreture : ");
          Serial.print((maxTemp*(9/5)) + 32);
    Serial.println("F");

}

void printMinMaxTemp(){

  for(int i=0; i<10; i++){

          sensorInput = analogRead(sensorPin);
          tempreture = (double) sensorInput / 1024;
          tempreture = tempreture * 5;
          tempreture = tempreture - 0.5;
          tempreture = tempreture * 100;
          if(tempreture < minTemp)
          minTemp = tempreture;
          if(tempreture > maxTemp)
          maxTemp = tempreture;
          Serial.println("Tempreture : ");
          Serial.print((tempreture*(9/5)) + 32);
    Serial.println("F");
          delay(1000);

  }

}
```

```
/*
        Write a program to show the temperature and shows a graph of the recent measurements

        Name : Kunal Patil
        Roll No : SAI&D76

*/
int sensorPin = A0;
int sensorInput;
double tempreture;
double minTemp = 125, maxTemp = 0;

void setup()
{
  pinMode(sensorPin,INPUT);
  Serial.begin(9600);
}

void loop()
{
  printMinMaxTemp();
        /*Serial.println("Minimum Tempreture : ");
        Serial.print((minTemp*(9/5)) + 32);
    Serial.println("F");
        Serial.println("Maximum Tempreture : ");
        Serial.print((maxTemp*(9/5)) + 32);
    Serial.println("F");*/

}

void printMinMaxTemp(){

  for(int i=0; i<10; i++){
        sensorInput = analogRead(sensorPin);
        tempreture = (double) sensorInput / 1024;
        tempreture = tempreture * 5;
        tempreture = tempreture - 0.5;
        tempreture = tempreture * 100;
        if(tempreture < minTemp)
        minTemp = tempreture;
        if(tempreture > maxTemp)
        maxTemp = tempreture;
        //Serial.println("Tempreture : ");
    Serial.print("  ");
        Serial.println((tempreture*(9/5)) + 32);

    //Serial.println("F");
        delay(100);

  }

}
```

```
/*
Write a program using piezo element and use it to play a tune after someone knocks
Name : Kunal Patil
Roll No : SAI&D76
*/

int sensoroutput = A4; // the analog pin connected to the sensor
int ledoutput = 12; // pin connected to LED
int THRESHOLD = 1000;
void setup()
{
pinMode(ledoutput, OUTPUT);   // this function is used to declare led connected pin as output
}
void loop()
{
int value = analogRead(sensoroutput);  // function to read analog voltage from sensor
if (value >= THRESHOLD)                  // function to check voltage level from sensor
{
digitalWrite(ledoutput, HIGH);
delay(100); // to make the LED visible
}
else
digitalWrite(ledoutput, LOW);
}
```

```
/*
Understanding the connectivity of Raspberry-Pi /Beagle board circuit / Arduino with IR sensor.
Write an application to detect obstacle and notify user using LEDs

Name : Kunal Patil
Roll No : SAI&D76
*/

void setup()
{
  pinMode(12,OUTPUT);
  pinMode(2,INPUT);

}
void loop()
{
  digitalWrite(12,LOW);
  if (digitalRead(2)== LOW)
  {
    digitalWrite(12,HIGH);
    Serial.println(count);
    delay(10);
  }

}
```