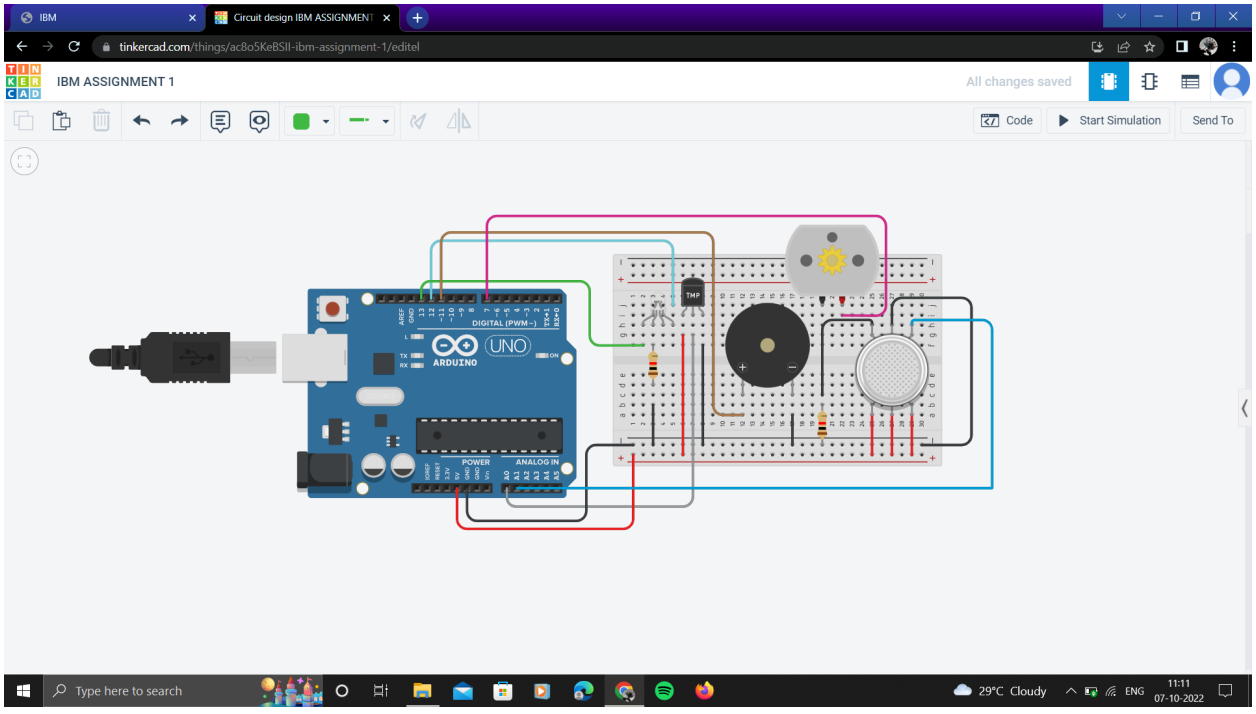
TINKER CAD ASSIGNMENT 1

By
Niveditha.M.G

AIM:

The aim of the project is to measure the room temperature and detect the presence of smoke to give an alert message to the user.

CIRCUIT DIAGRAM:



CODE:

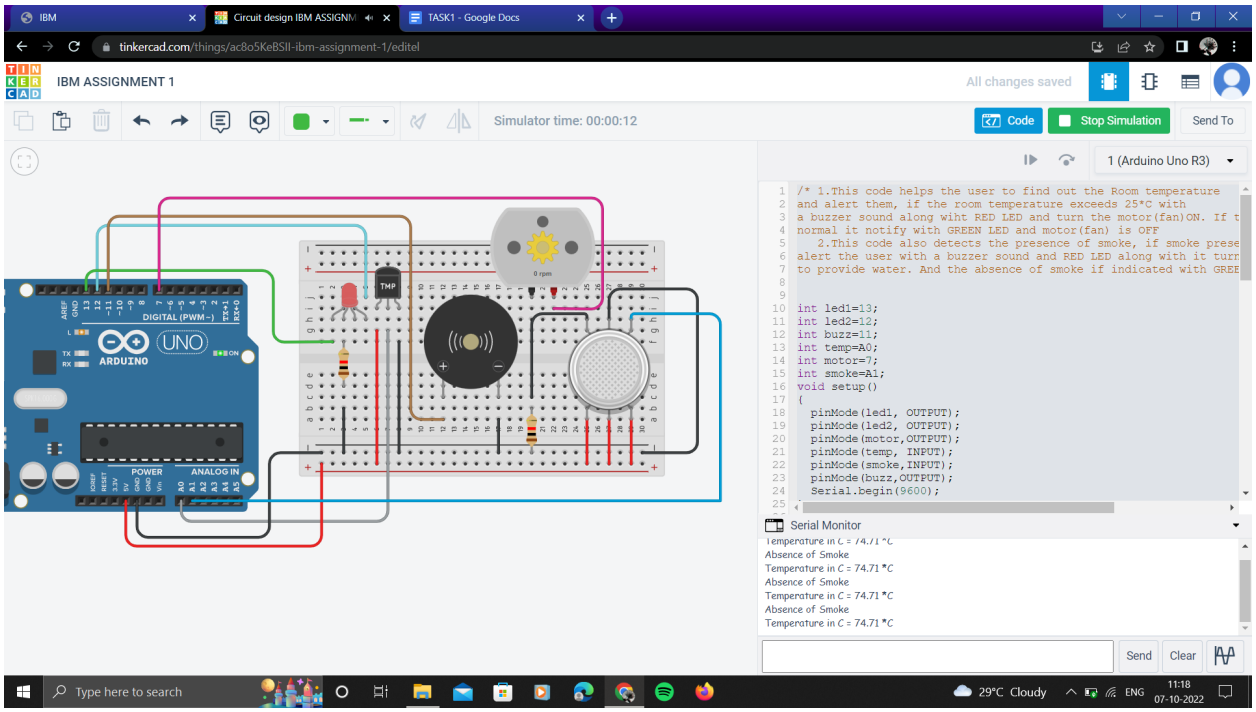
```
/* 1.This code helps the user to find out the Room temperature
and alert them, if the room temperature exceeds 25*C with
a buzzer sound along with RED LED and turn the motor(fan)ON. If the
room temperature is
normal it notify with GREEN LED and motor(fan) is OFF
   2.This code also detects the presence of smoke, if smoke present it
alert the user with a buzzer sound and RED LED along with it turns on
the motor
to provide water. And the absence of smoke if indicated with GREEN
LED*/

int led1=13;
int led2=12;
int buzz=11;
int temp=A0;
int motor=7;
int smoke=A1;
void setup()
{
  pinMode(led1, OUTPUT);
  pinMode(led2, OUTPUT);
  pinMode(motor,OUTPUT);
  pinMode(temp, INPUT);
  pinMode(smoke,INPUT);
  pinMode(buzz,OUTPUT);
  Serial.begin(9600);
```

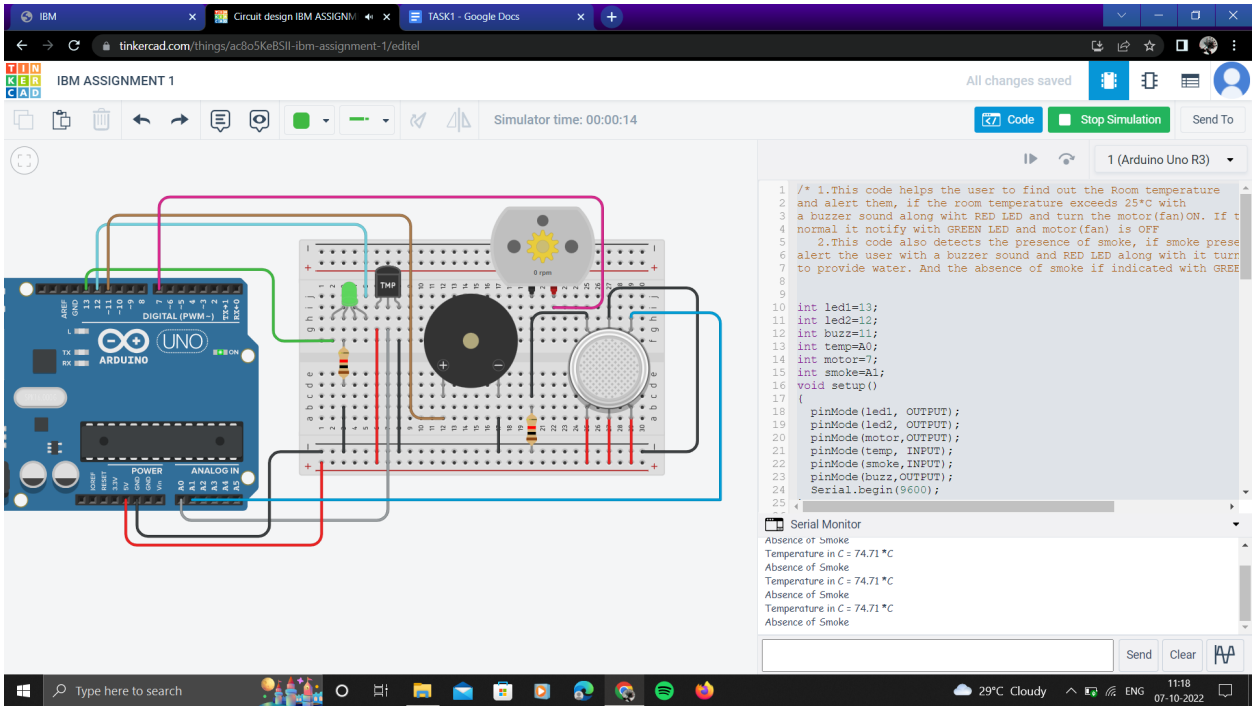
```
}

void loop()
{
 /*       TEMPERATURE SENSING AND FAN    */
 int value=analogRead(temp);
 float volt=(value/1024.0)*5000; //converts input temp to voltage
 float cel=volt/10;                // voltage to Celcius
 Serial.print("Temperature in C = ");
 Serial.print(cel);
 Serial.print(" *C");
 Serial.println();
 if(cel>=25)
 {
      digitalWrite(led1, HIGH);
      tone(buzz,1000);
      digitalWrite(motor, HIGH);
      delay(1000);              // Wait for 1000 millisecond(s)
      digitalWrite(led1, LOW);
      noTone(buzz);
      delay(1000);
 }
 else
 {
      digitalWrite(led2, HIGH);
      digitalWrite(motor,LOW);
      delay(1000);              // Wait for 1000 millisecond(s)
```

```
    digitalWrite(led2, LOW);
  delay(1000);
}

/*          SMOKE DETECTION          */
int smokein=analogRead(smoke);
int threshold=400;            //threshold value for smoke sensor
if (smokein>threshold)
{
    Serial.print("Presence of Smoke");
    Serial.println();
    digitalWrite(led1, HIGH);
    tone(buzz,1000);
    digitalWrite(motor, HIGH);
    delay(1000);              // Wait for 1000 millisecond(s)
    digitalWrite(led1, LOW);
    noTone(buzz);
    delay(1000);
}
else
{
    Serial.print("Absence of Smoke");
    Serial.println();
    digitalWrite(led2, HIGH);
    digitalWrite(motor,LOW);
    delay(1000); // Wait for 1000 millisecond(s)
    digitalWrite(led2, LOW);
```

```
    delay(1000);
  }

}
```

SIMULATION:




IBM
Circuit design IBM ASSIGNM
TASK1 - Google Docs
tinkercad.com/things/ac8o5KeBSII-ibm-assignment-1/editel
IBM ASSIGNMENT 1
All changes saved
Simulator time: 00:00:14
Code
Stop Simulation
Send To
1 (Arduino Uno R3)
/* 1.This code helps the user to find out the Room temperature
and alert them, if the room temperature exceeds 25*C with
a buzzer sound along wiht RED LED and turn the motor(fan)ON. If t
normal it notify with GREEN LED and motor(fan) is OFF
2.This code also detects the presence of smoke, if smoke prese
alert the user with a buzzer sound and RED LED along with it turn
to provide water. And the absence of smoke if indicated with GREE
int led1=13;
int led2=12;
int buzz=11;
int temp=A0;
int motor=7;
int smoke=A1;
void setup()
{
pinMode(led1, OUTPUT);
pinMode(led2, OUTPUT);
pinMode(motor,OUTPUT);
pinMode(temp, INPUT);
pinMode(smoke,INPUT);
pinMode(buzz,OUTPUT);
Serial.begin(9600);
Serial Monitor
Absence of Smoke
Temperature in C = 74.71 *C
Absence of Smoke
Temperature in C = 74.71 *C
Absence of Smoke
Temperature in C = 74.71 *C
Absence of Smoke
Send
Clear
Type here to search
29°C Cloudy
ENG
11:18
07-10-2022