PROJECT REPORT ON : SMOKE DETECTOR

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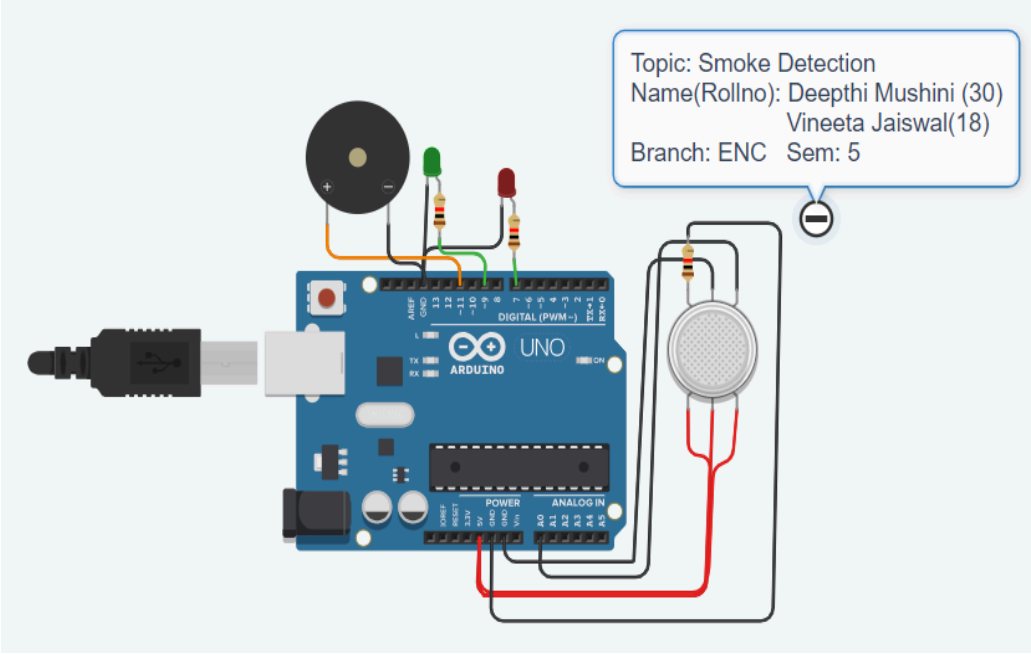
TOPIC: SMOKE DETECTION

AIM: To design and develop an efficient smoke detection system that accurately detects smoke and alerts users to potential fires.

APPARATUS: Simulation Tool: Tinkercad
Components: Arduino Uno R3, Resistors, Buzzer, LEDs, Gas sensor, Connecting Wires.

PROCEDURE : 1. Connect the circuit as shown in the diagram.
2 .Write the code.
3 .Start Simulation and observe the output.
4 .Record the output and Stop the simulation.

CIRCUIT:



CODE:

```
//Topic: Smoke Detection
//Name(Rollno): Deepthi Mushini (30)
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//Branch: ENC   Sem: 5
// C++ code
const int smokeRef = 50;
int smoke = 0;
void setup()
{
  pinMode(9, OUTPUT);
  pinMode(7, OUTPUT);
  pinMode(11, OUTPUT);
  pinMode(A0, INPUT);
  Serial.begin(9600);
}

void loop()
{
  smoke = map(((analogRead(A0)-20)*3.04),0,1023,-50,125);
  Serial.print("Smoke value: ");
  Serial.println(smoke);

  if(smoke<=smokeRef)
  {
  digitalWrite(7, HIGH);
  digitalWrite(9, LOW);
  digitalWrite(11, HIGH);
  }
  else
  {
  digitalWrite(9, HIGH);
  digitalWrite(7, LOW);
  digitalWrite(11, LOW);
  }
}
```
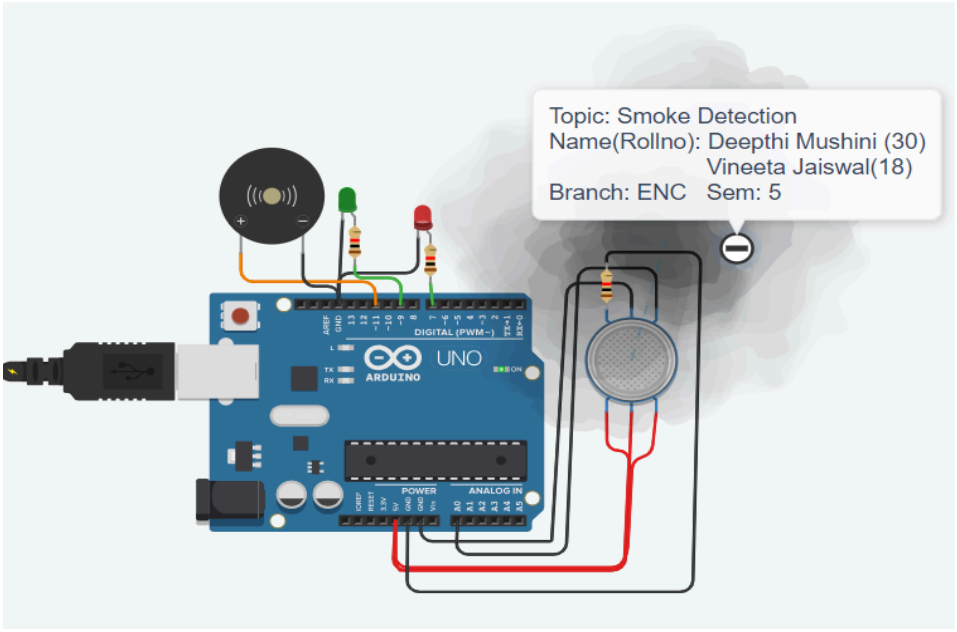
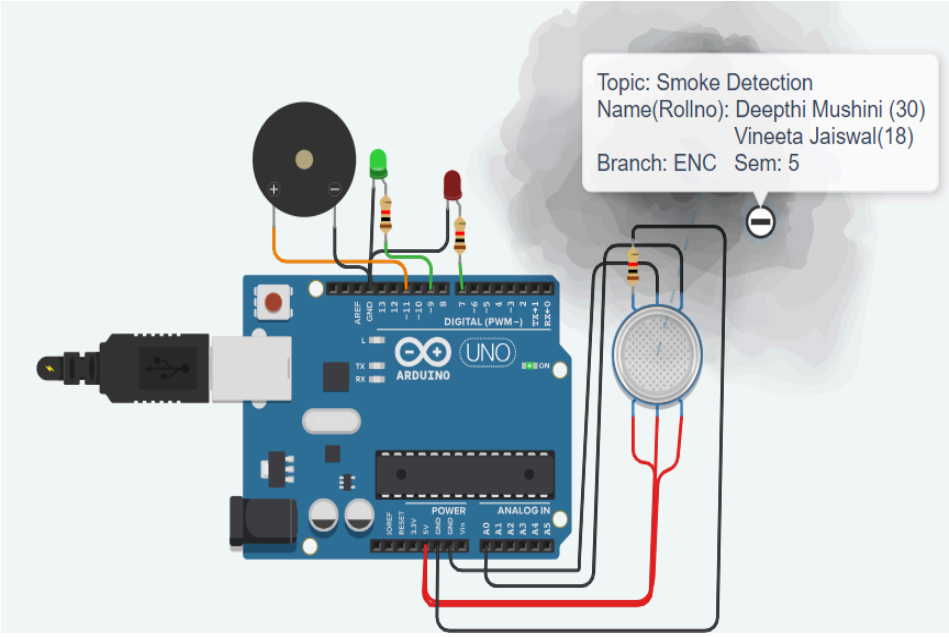

Serial Monitor

OUTPUT:

Smoke is Detected and red LED glows, if smoke is above 50.



Smoke is not Detected and green LED glows if smoke is below or equal to 50.



LINK: https://www.tinkercad.com/things/9aQ0Zg4Gdat-glorious-wluff/editel?tenant=circuits

CONCLUSION: The designed smoke detection system successfully utilizes cutting-edge technologies to accurately detect smoke and alert users to potential fires.