SMART HOME USING TINKERCAD

IBM ASSIGNMENT - 1

DESCRIPTION :

The circuit is a basic version of smart home using ultrasonic sensor (Glowing of bulb and buzzer is generated while the person is within a particular range being set. Here the range being set is 15cm) , temperature sensor (Fan operation).

CODE :

```
double temp;
int tempin = A1;
#define fan 5

int trigger_pin = 2;
int echo_pin = 3;
int buzzer_pin = 9;
int bulb_pin = 4;
int time;
int distance;
void setup()
{
    Serial.begin (9600);
    pinMode (trigger_pin, OUTPUT);
    pinMode (echo_pin, INPUT);
    pinMode (buzzer_pin, OUTPUT);
```

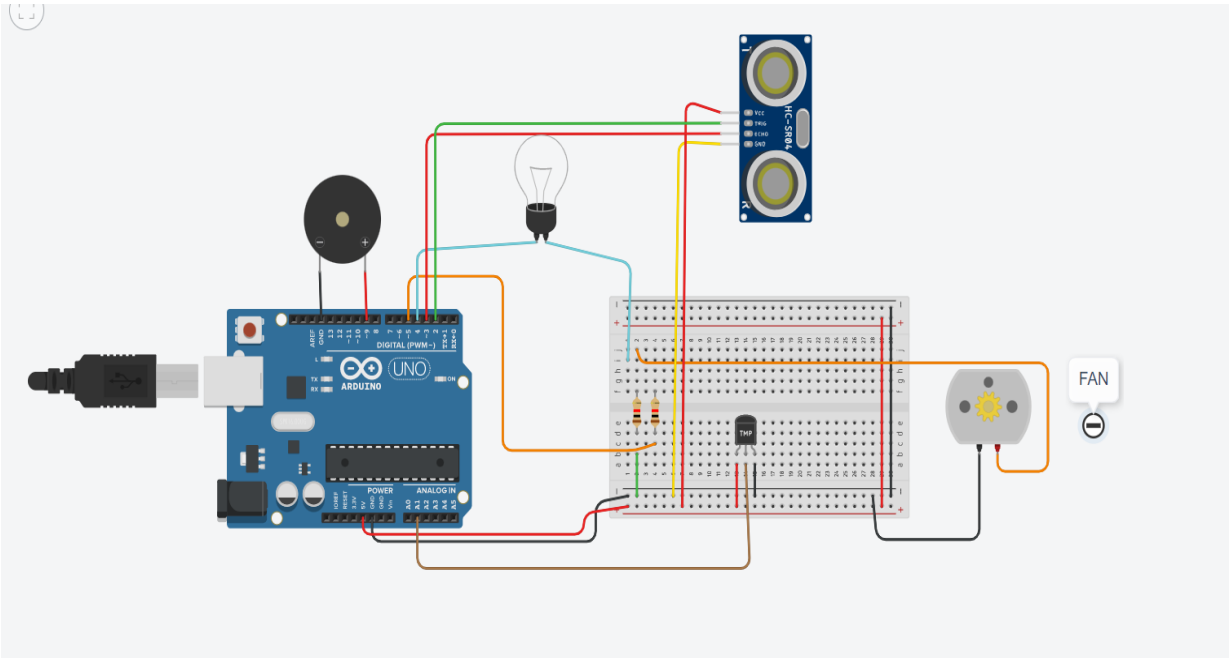
```
                pinMode (bulb_pin, OUTPUT);
                pinMode (fan,OUTPUT);
                pinMode(A0, INPUT);
}
void loop()
{
    digitalWrite (trigger_pin, HIGH);
    delayMicroseconds (10);
    digitalWrite (trigger_pin, LOW);
    time = pulseIn (echo_pin, HIGH);
    distance = (time * 0.034) / 2;

         if (distance <=100){
        digitalWrite (buzzer_pin, HIGH);
         digitalWrite (bulb_pin, HIGH);
        delay (500);
        }
          else {
        digitalWrite (buzzer_pin, LOW);
         digitalWrite (bulb_pin, LOW);
        delay (500);
       }

temp = 0;
  temp =analogRead(tempin);
```

```
  temp = (double)temp/1024;
  temp = temp * 5;
  temp = temp - 0.5;
  temp = temp * 100;
  if (temp <20) {
    analogWrite(fan,0);   //Fan Off
  }
  else if (temp<=20) {
    analogWrite(fan, 51);   //Fan Speed 20%
  }
  else if (temp<=25) {
    analogWrite( fan,102);   //Fan Speed 40%
  }
  else if (temp<=30) {
    analogWrite (fan,153);   //Fan Speed 60%
  }
  else if (temp<=49) {
    analogWrite(fan,200);   //Fan Speed 80%
  }
  else{
    analogWrite(fan,255);   //Fan Speed 100%
  }
}
```

CIRCUIT :



SUBMITTED BY :

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