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ASSIGNMENT 1

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ASSIGNMENT:

Make a Smart Home in Tinkercad, using 2+ sensors, Led, Buzzer in single code and circuit.

ABSTRACT:

Smart Home is building automation for a home, called a home automation or smart house. A home automation system will control lighting, climate, entertainment systems, and appliances. The data is then used for monitoring, controlling and transferring information to other devices via the internet. This allows specific actions to be automatically activated whenever certain situations arise.

COMPONENTS USED:

Arduino Uno R3, PIR sensor, bulb, breadboard, DC motor, connecting wires.

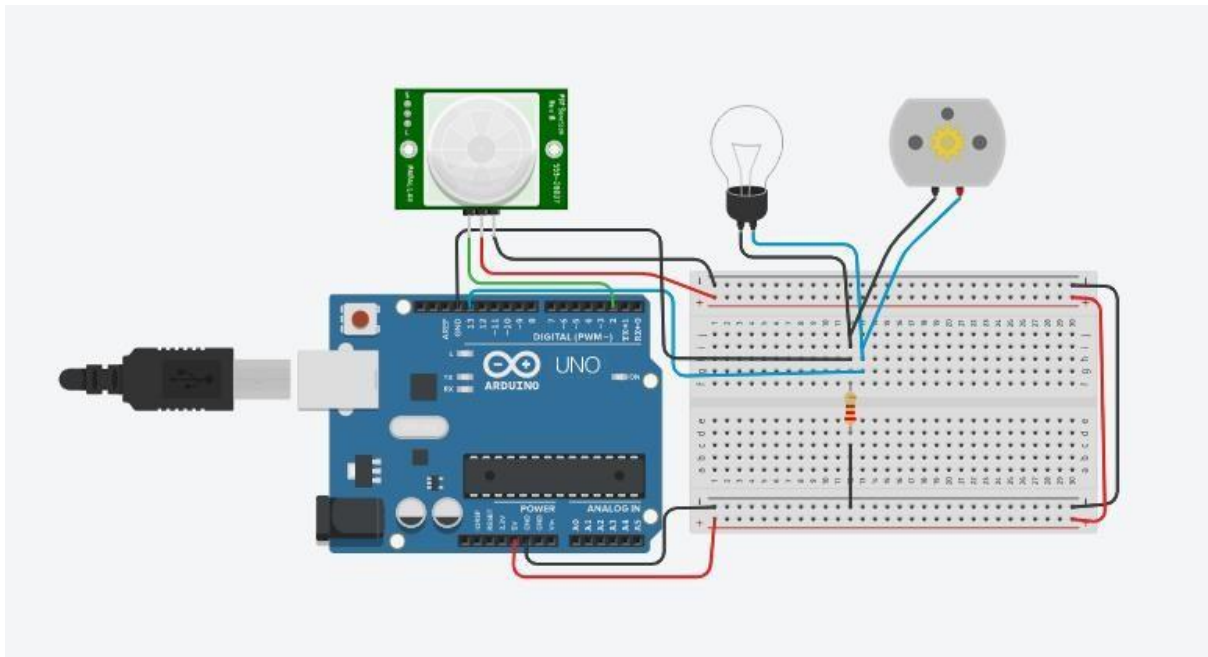
SOFTWARE COMPONENT :

Tinkercad

WORKING:

Whenever an object is in front of PIR sensor in its range the bulb and the Fan turns ON. And whenever an object is not in the PIR sensor range the light and Fan turns OFF.

CIRCUIT DESIGN:



CODE:

```
int trigger_pin = 2;
int echo_pin = 3;
int buzzer_pin = 10;
int time;
int distance;
void setup()
{
    Serial.begin (8600);
    pinMode (trigger_pin, OUTPUT);
    pinMode (echo_pin, INPUT);
    pinMode (buzzer_pin, OUTPUT);
}
void loop()
{
    digitalWrite (trigger_pin, HIGH);
    delayMicroseconds (20);
    digitalWrite (trigger_pin, LOW);
    time = pulseIn (echo_pin, HIGH);
    distance = (time * 0.034) / 2;
    if (distance <= 20)
    {
        Serial.println (" Door Open ");
        Serial.print (" Distance= ");
        Serial.println (distance);
        digitalWrite (buzzer_pin, HIGH);
        delay (400);
    }
}
```

```
}  
else  
{  
    Serial.println (" Door closed ");  
    Serial.print (" Distance= ");  
    Serial.println (distance);  
    digitalWrite (buzzer_pin, LOW);  
    delay (400);  
}  
}
```

CONCLUSION:

Here, I have designed a IoT based Smart Home using Tinkercad, Arduino, PIR sensor, Buzzer and some other component, Smart home is proposed and implemented.