BUILD A SMART HOME WITH USING AT LEAST 2 SENSORS ,LED AND BUZZERS IN A CIRCUIT WITH SINGLE CODE

SIMULATION

```
// C++ code

#include <LiquidCrystal.h>

LiquidCrystal lcd(3, 2, 11, 10, 9, 8);

float value;

int tmp = A1;

// initialize the library with the numbers of the interface pins


int pir = 0;

int dist = 0;

int photoresistor = 0;

long readUltrasonicDistance(int triggerPin, int echoPin)

{

  pinMode(triggerPin, OUTPUT);  // Clear the trigger

  digitalWrite(triggerPin, LOW);

  delayMicroseconds(2);

  // Sets the trigger pin to HIGH state for 10 microseconds

  digitalWrite(triggerPin, HIGH);

  delayMicroseconds(10);

  digitalWrite(triggerPin, LOW);
```

```
  pinMode(echoPin, INPUT);
  // Reads the echo pin, and returns the sound wave travel time in microseconds
  return pulseIn(echoPin, HIGH);
}
void setup()
{
  pinMode(4, OUTPUT);
  pinMode(5, OUTPUT);
  pinMode(12, INPUT);
  pinMode(13, OUTPUT);
  pinMode(A2, INPUT);
  pinMode(12, INPUT);
  lcd.begin(16, 2);
  pinMode(tmp,INPUT);
}
void loop()
{

  digitalWrite(5, LOW);//buzzer off
  photoresistor = analogRead(A2);
  pir = digitalRead(12); //pir motion sensor in the room

  if (pir == HIGH) {
    digitalWrite(13, HIGH); //the light turns on
  } else {
```

```
  digitalWrite(13, LOW);//the light turns off
}
dist = 0.01723 * readUltrasonicDistance(7, A0); //outside the house the ultrasonic detects burglers
if (dist <= 60 && dist >= 0) {
  digitalWrite(5, HIGH);  //the buzzer turns on after the detection
}

if (photoresistor < 200) { //the photoresistor turns on a yellow light
  digitalWrite(4, HIGH);   //at night above the front door
} else {
  digitalWrite(4, LOW);
}

delay(10); // Delay a little bit to improve simulation performance
value = analogRead(tmp)*0.004882814; // temperature calculations for celsius
value = (value - 0.5) * 100.0;
lcd.setCursor(0,0);
lcd.print("Tmp:");
lcd.print(value);
lcd.print(char (178));// for real simulation use lcd.print ((char)223)
lcd.print("C");
delay(1000);
```

}

CIRCUIT DIAGRAM