ASSIGNMENT-01

IOT ENABLED CODING

ASSIGNMENT NUMBER	01
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WRITE A CODE TO AUTOMATE THE HOME USING VARIOUS SENSORS

PROGRAM

```
int moistureSensor = A0;
int lightLevelDetector = A1;
int tapForward = 2;
int tapReverse = 3;
int lights = 4;

void setup()
{
  Serial.begin(9600);
  pinMode(moistureSensor, INPUT);
  pinMode(lightLevelDetector, INPUT);
  pinMode(tapForward, OUTPUT);
  pinMode(tapReverse, OUTPUT);
  pinMode(lights, OUTPUT);
  delay(5000);
}

void loop()
{
  toggleLight();
  waterPlant();
```

```
}

void toggleLight()
{
  if(analogRead(lightLevelDetector)>940)
    digitalWrite(lights,LOW);
  else
    digitalWrite(lights,HIGH);
}

void waterPlant()
{
  if(analogRead(moistureSensor)<=400)
  {
    // low soil mositure
    pourWater();
    delay(1000);
  }
}

void pourWater()
{
  Serial.println("Starting to pour water\nOpening tap ...");
  // opening tap
  digitalWrite(tapForward,HIGH);
  digitalWrite(tapReverse,LOW);
  delay(5*1000);
  // closing tap
  Serial.println("Closing tap ...");
  digitalWrite(tapForward,LOW);
  digitalWrite(tapReverse,HIGH);
```

```
  delay(8*1000); // extra time for completely closing the tap
  // turning off motor
  Serial.println("Turning motors off ...");
  digitalWrite(tapReverse,LOW);
  // providing delay for moisture sensor to read the updated value
  delay(10*1000);
  Serial.println("Pouring water completed");
}
```