- BLINK

```
void setup()
{
  pinMode(13, OUTPUT);
}

void loop()
{
  digitalWrite(13, HIGH);
  delay(1000); // Wait for 1000 millisecond(s)
  digitalWrite(13, LOW);
  delay(1000); // Wait for 1000 millisecond(s)
}
```

- TRAFFIC LIGHTS

```
void setup()
{
  pinMode(2, OUTPUT);
  pinMode(3, OUTPUT);
  pinMode(4, OUTPUT);
}

void loop()
{
  digitalWrite(2, HIGH);
  digitalWrite(3, LOW);
  digitalWrite(4, LOW);
  delay(2000); // Wait for 2000 millisecond(s)
  digitalWrite(2, LOW);
  digitalWrite(3, HIGH);
  digitalWrite(4, LOW);
  delay(2000); // Wait for 2000 millisecond(s)
  digitalWrite(2, LOW);
  digitalWrite(3, LOW);
  digitalWrite(4, HIGH);
  delay(2000); // Wait for 2000 millisecond(s)
}
```

- PIR SENSOR

```
int sensorState = 0;
void setup()
{
  pinMode(2, INPUT);
  pinMode(3, OUTPUT);
  Serial.begin(9600);
}
void loop()
{
  // read the state of the sensor/digital input
```

```
  sensorState = digitalRead(2);
  if (sensorState == HIGH) {
    digitalWrite(3, HIGH);
    Serial.println("Sensor activated!");
    delay(1000);

  }
  else {
    digitalWrite(3, LOW);
    delay(1000);

  }

   // Delay a little bit to improve simulation performance
}
```

- LIGHT DETECTING RESISTOR

```
int value=0;
void setup()
{
  Serial.begin(9600);
  pinMode(11, OUTPUT);
  pinMode(A0, INPUT);
}

void loop()

{

  value= analogRead(A0);

  if(value<10)
  {
    digitalWrite(11, LOW);
    Serial.println("Light OFF");
    Serial.println(value);
  }
  else
  {
     digitalWrite(11, HIGH);
    Serial.println("Light ON");
    Serial.println(value);
  }
}
```

- ULTRASONIC SENSOR

```
int cm = 0;
int inches = 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()
{
  Serial.begin(9600);
  pinMode(2, OUTPUT);
  pinMode(3, OUTPUT);
  pinMode(4, OUTPUT);
}
void loop()
{
  cm = 0.01723 * readUltrasonicDistance(7, 6);
  Serial.print(cm);
  Serial.print("cm, ");
  delay(5000);
}
```

- **SERVO MOTOR**

```
#include <Servo.h>
Servo myservo;
int pot = A0;
double angle;

void setup()
{
  myservo.attach(3);
  pinMode(A0,INPUT);
}

void loop()
{
  pot = analogRead(A0);
  angle=map(pot,0,1023,0,180);
  myservo.write(angle);
}
```