ASSIGNMENT 2

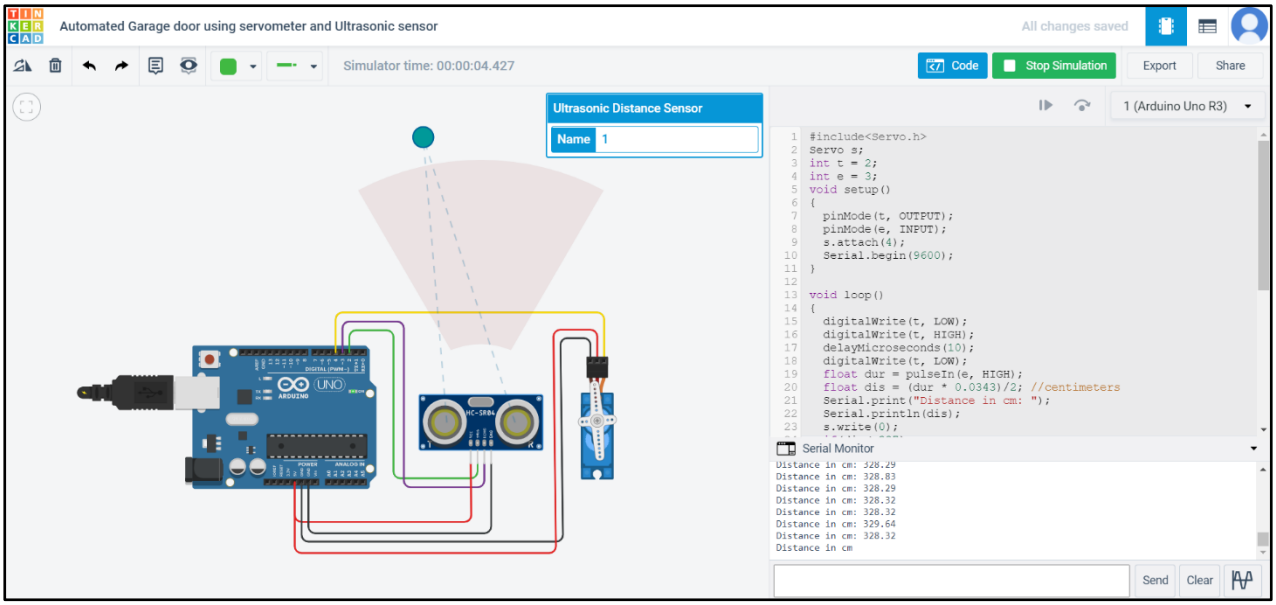
- Develop an "Automatic garage door opening system". Use an Ultrasonic sensor to detect if there is a vehicle in front of the garage. if any vehicle is detected open the garage door (rotate the servo motor) for some time and close it

Python code

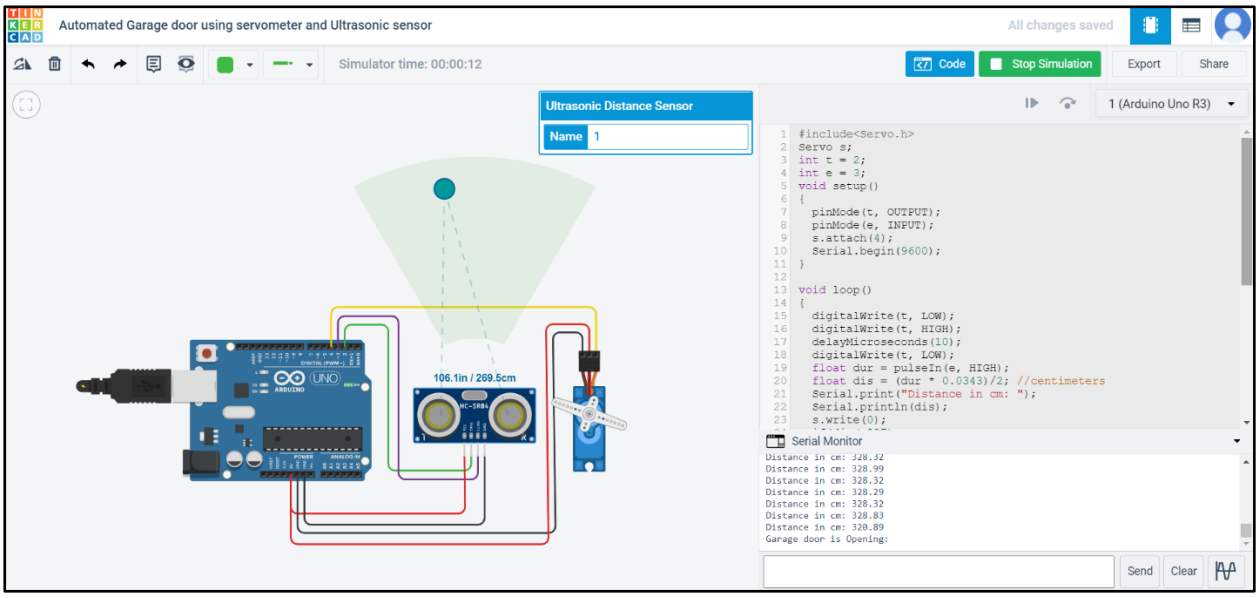
```
#include<Servo.h>
Servo s;
int t = 2;
int e = 3;
void setup()
{
  pinMode(t, OUTPUT);
  pinMode(e, INPUT);
  s.attach(4);
  Serial.begin(9600);
}

void loop()
{
  digitalWrite(t, LOW);
  digitalWrite(t, HIGH);
  delayMicroseconds(10);
  digitalWrite(t, LOW);
  float dur = pulseIn(e, HIGH);
  float dis = (dur * 0.0343)/2;  //centimeters
  Serial.print("Distance in cm: ");
  Serial.println(dis);
  s.write(0);
  if(dis<=327)
```

```
  {
    Serial.print("Garage door is Opening: ");
    for(int i=0;i<=100;i++)
    {
      s.write(i);
      delay(100);
     }
     delay(5000);
    Serial.println();
    Serial.print("Garage door is Closing: ");
     for(int j=180;j>=0;j--)
     {
       s.write(j);
       delay(100);
     }
  }
}
```

When the vehicle is outside the range



Garage door opening



Garage door closing