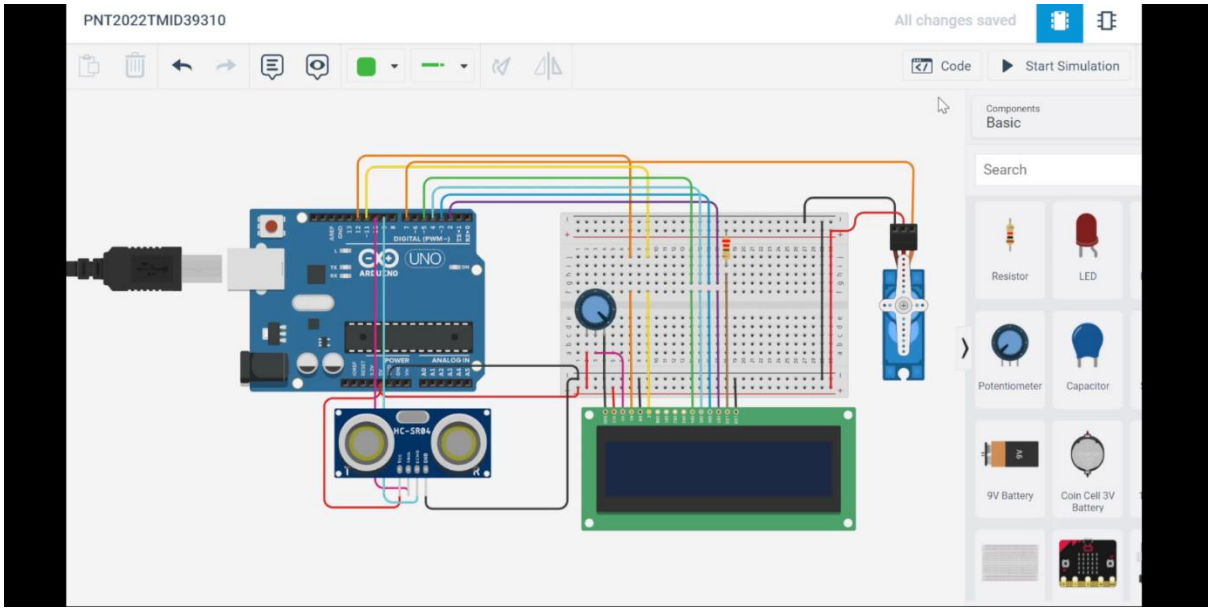
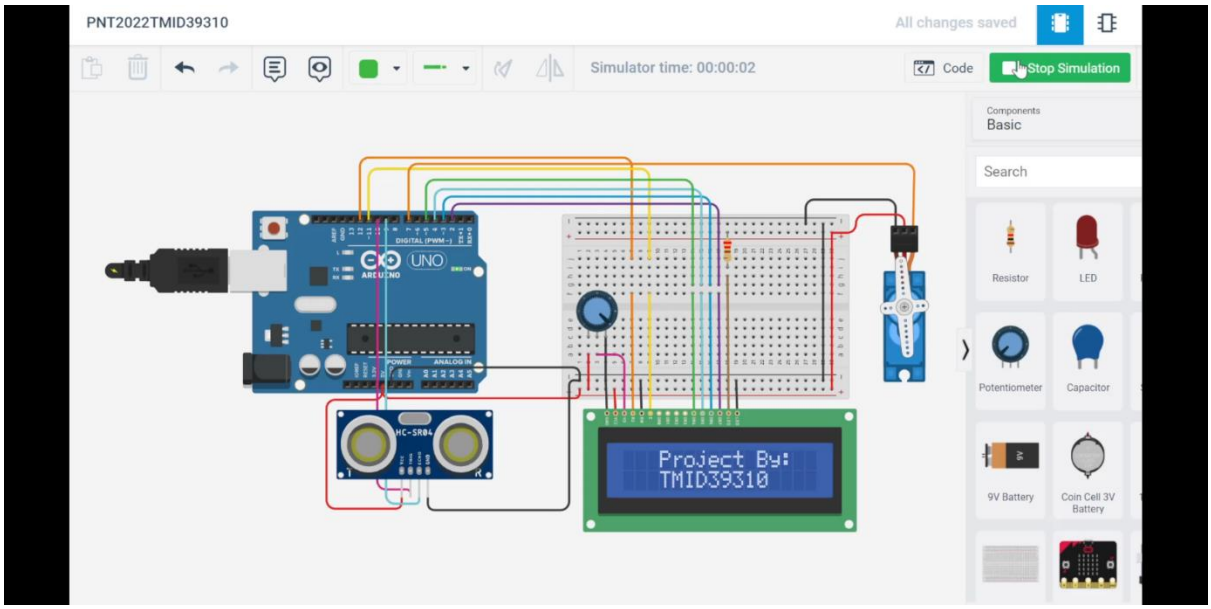
FINAL CODE:

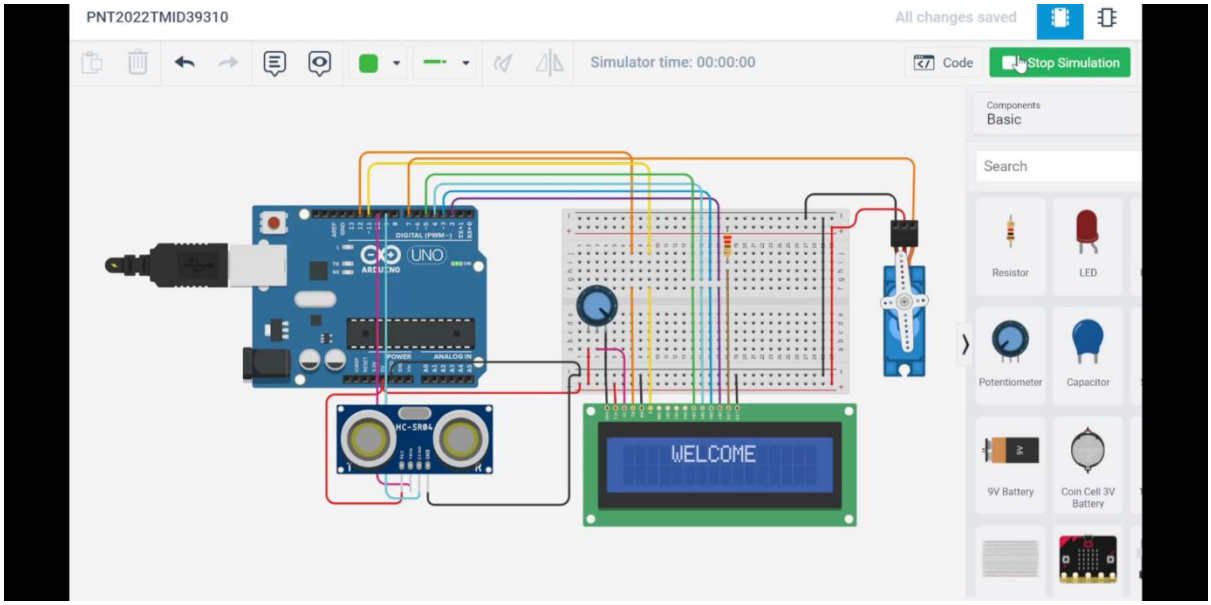
```
import time
import sys
import ibmiotf.application
import ibmiotf.device
import random


organization="ckuumt"
devicetype="zxcv"
deviceid="0987"
authMethod="token"
authToken="1234567891"


def myCommandCallback(cmd):
    print("Command received:%s"%cmd.data['command'])
    status=cmd.data['command']
    if status =="lighton":
        print("led in on")
    else:
            print("led is off")
try:
    deviceOptions={"org":organization,"type":devicetype,"id":deviceid,"auth-
method":authMethod,"auth-token":authToken}
    deviceCli=ibmiotf.device.Client(deviceOptions)
except Exception as e:
    print("Caught exception connecting device:%s"%str(e))
    sys.exit()
deviceCli.connect()
while True:
    time.sleep(5)
    Ultrasonic=random.randint(0,80)
```

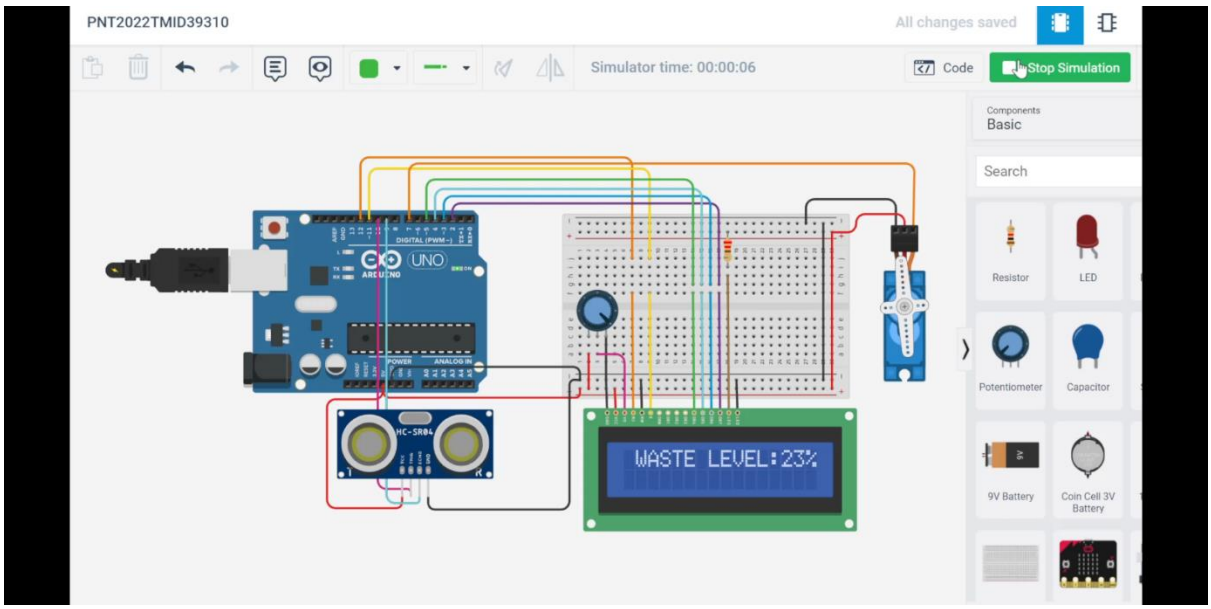
```
    Weight=random.randint(0,100)
    lat=round(random.uniform(11.03,11.50),6)
    long=round(random.uniform(76.80,76.90),6)
    GPS=str(lat)+str(',')+str(long)
    myData={'Ultrasonic':Ultrasonic,'Weight':Weight,'GPS':GPS}
    def myOnpublishCallback():
        print("Published Ultrasonic=%sCm"%Ultrasonic,"Weight:%s kg"%Weight,"GPS:%s"%GPS)


success=deviceCli.publishEvent("IoTSensor","json",data=myData,qos=0,on_publish=myOnpublishCal
lback)
    if not success:
        print("Not connected to IoTF")
    time.sleep(1)
    deviceCli.commandCallback=myCommandCallback
deviceCli.disconnect()
```

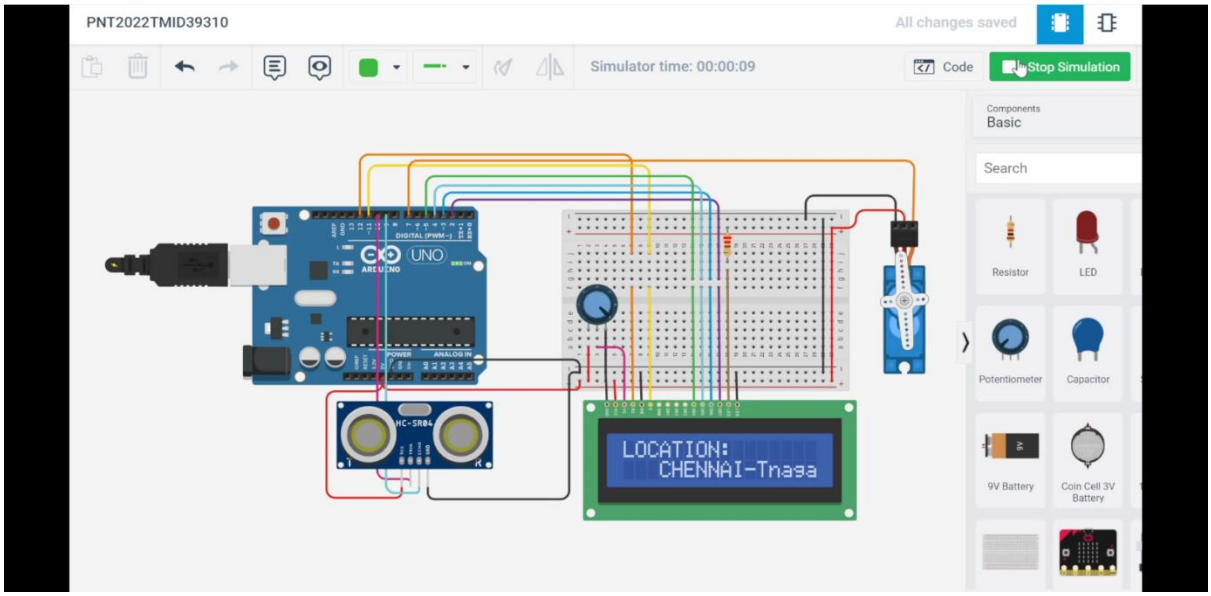
FINAL OUTPUT:

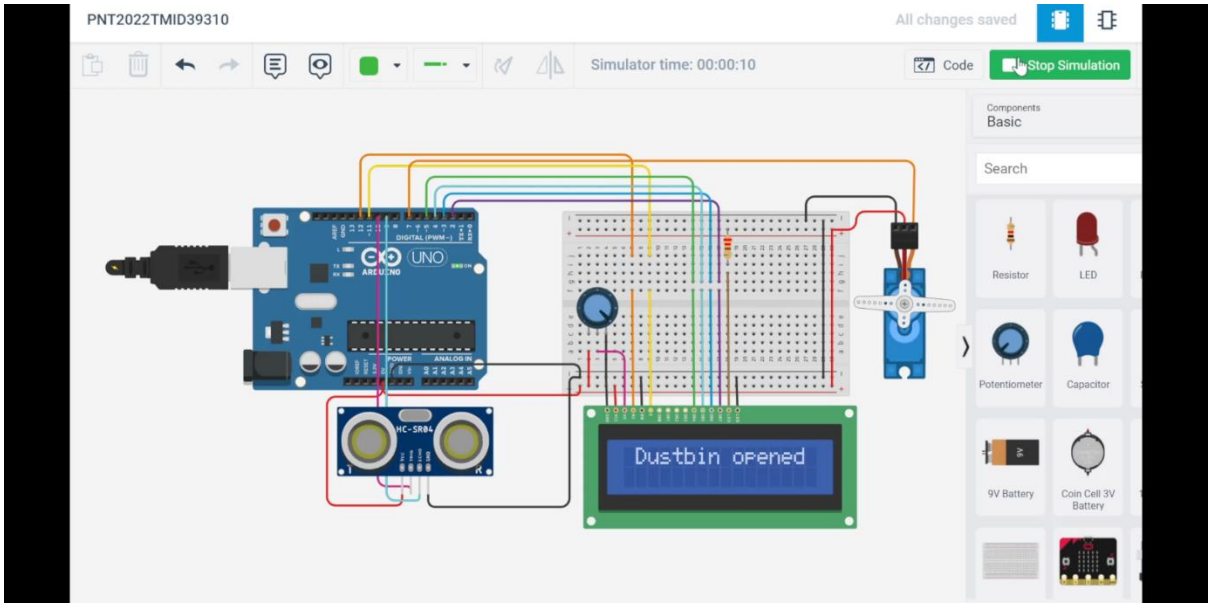

PNT2022TMID39310
All changes saved
Code
Start Simulation
Components
Basic
Search
Resistor
LED
Potentiometer
Capacitor
9V Battery
Coin Cell 3V Battery


PNT2022TMID39310
All changes saved
Simulator time: 00:00:02
Code
Stop Simulation
Components
Basic
Search
Resistor
LED
Potentiometer
Capacitor
9V Battery
Coin Cell 3V Battery
Project By:
TMID39310


PNT2022TMID39310
All changes saved
Simulator time: 00:00:00
Code
Stop Simulation
Components
Basic
Search
Resistor
LED
Potentiometer
Capacitor
9V Battery
Coin Cell 3V Battery
UNO
HC-SR04
WELCOME


PNT2022TMID39310
All changes saved
Simulator time: 00:00:06
Code
Stop Simulation
Components
Basic
Search
Resistor
LED
Potentiometer
Capacitor
9V Battery
Coin Cell 3V Battery
UNO
HC-SR04
WASTE LEVEL:23%


PNT2022TMID39310
All changes saved
Simulator time: 00:00:09
Code
Stop Simulation
Components
Basic
Search
Resistor
LED
Potentiometer
Capacitor
9V Battery
Coin Cell 3V Battery
LOCATION:
CHENNAI-Tnaga


PNT2022TMID39310
All changes saved
Simulator time: 00:00:10
Code
Stop Simulation
Components
Basic
Search
Resistor
LED
Potentiometer
Capacitor
9V Battery
Coin Cell 3V Battery
Dustbin opened