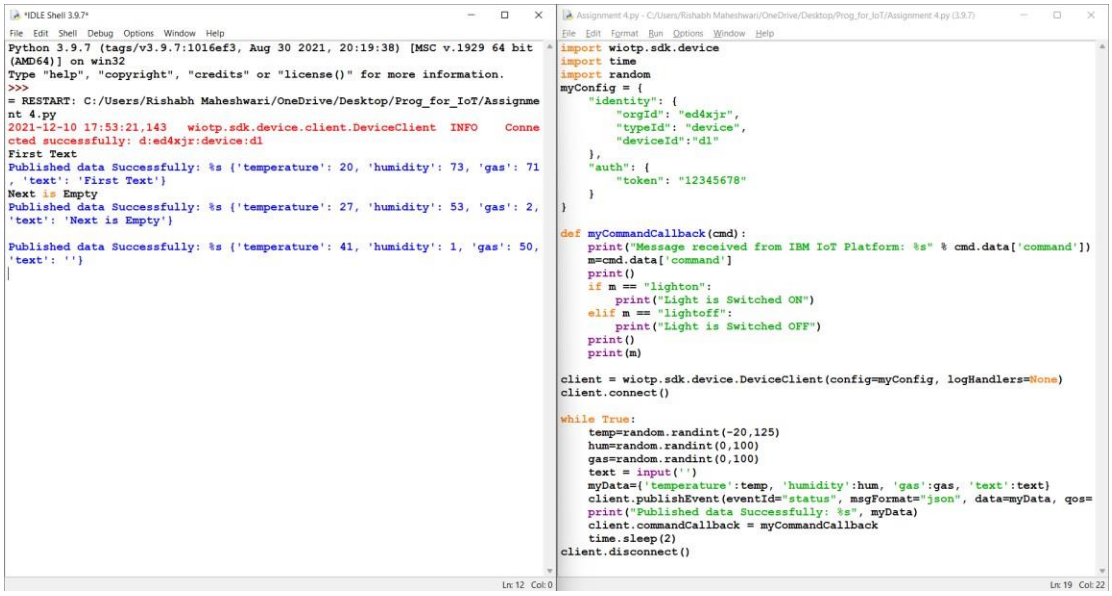
Assignment 4

Akshat Verma
19BCY10075

Develop a mobile application that takes the user input and sends it to IoT device (python code). print the received data in python shell.
Keep a text box to accept the user input. Integrate a submit button.
whenever user enters the text input in text box and clicks the button the data should be sent to IBM cloud using URL(HTTP API).

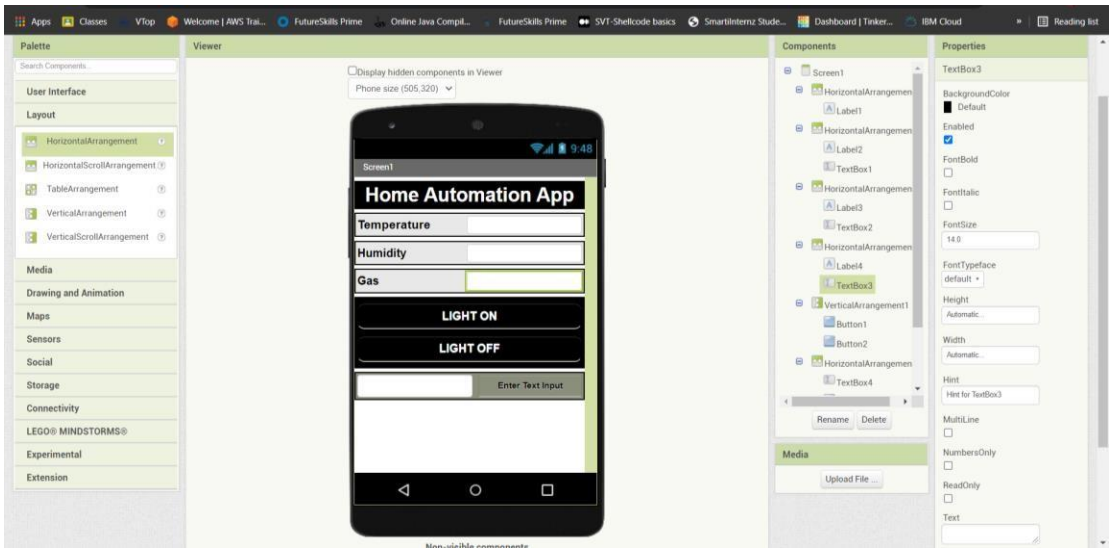
1. The Program that we have developed would work and update the Temperature, Humidity and Gas variables continuously while if the user enters some text then it would be visible on the IDLE Shell.



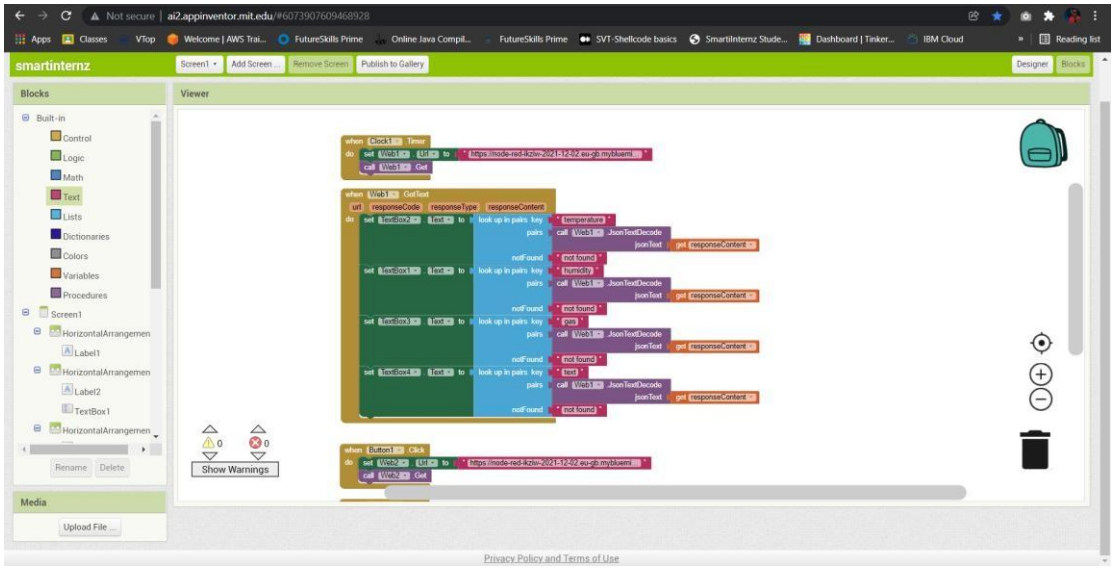
```
*IDLE Shell 3.9.7*
File  Edit  Shell  Debug  Options  Window  Help
Python 3.9.7 (tags/v3.9.7:1016ef3, Aug 30 2021, 20:19:38) [MSC v.1929 64 bit
(AMD64)] on win32
Type "help", "copyright", "credits" or "license()" for more information.
>>>
= RESTART: C:/Users/Rishabh Maheshwari/OneDrive/Desktop/Prog_for_IoT/Assignme
nt 4.py
2021-12-10 17:53:21,143   wiotp.sdk.device.client.DeviceClient  INFO    Conne
cted successfully: d:ed4xjr:device:d1
First Text
Published data Successfully: %s {'temperature': 20, 'humidity': 73, 'gas': 71
, 'text': 'First Text'}
Next is Empty
Published data Successfully: %s {'temperature': 27, 'humidity': 53, 'gas': 2,
'text': 'Next is Empty'}

Published data Successfully: %s {'temperature': 41, 'humidity': 1, 'gas': 50,
'text': ''}
```

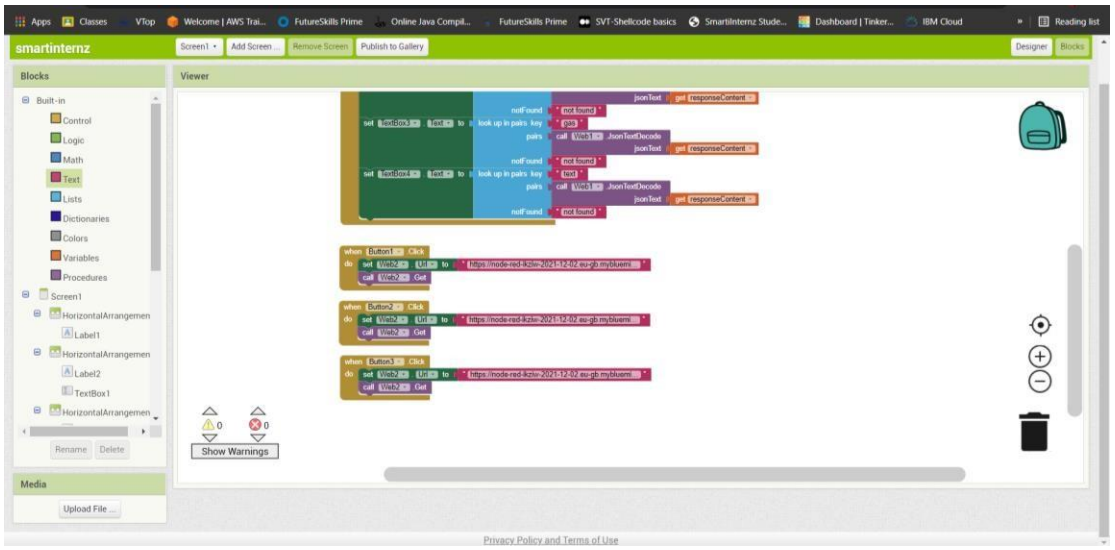
```
Assignment 4.py - C:/Users/Rishabh Maheshwari/OneDrive/Desktop/Prog_for_IoT/Assignment 4.py (3.9.7)
File  Edit  Format  Run  Options  Window  Help
import wiotp.sdk.device
import time
import random
myConfig = {
    "identity": {
        "orgId": "ed4xjr",
        "typeId": "device",
        "deviceId":"d1"
    },
    "auth": {
        "token": "12345678"
    }
}

def myCommandCallback(cmd):
    print("Message received from IBM IoT Platform: %s" % cmd.data['command'])
    m=cmd.data['command']
    print()
    if m == "lighton":
        print("Light is Switched ON")
    elif m == "lightoff":
        print("Light is Switched OFF")
    print()
    print(m)

client = wiotp.sdk.device.DeviceClient(config=myConfig, logHandlers=None)
client.connect()

while True:
    temp=random.randint(-20,125)
    hum=random.randint(0,100)
    gas=random.randint(0,100)
    text = input('')
    myData={'temperature':temp, 'humidity':hum, 'gas':gas, 'text':text}
    client.publishEvent(eventId="status", msgFormat="json", data=myData, qos=
    print("Published data Successfully: %s", myData)
    client.commandCallback = myCommandCallback
    time.sleep(2)
client.disconnect()
```

2. Using MIT App Inventor first design the mobile app layout.

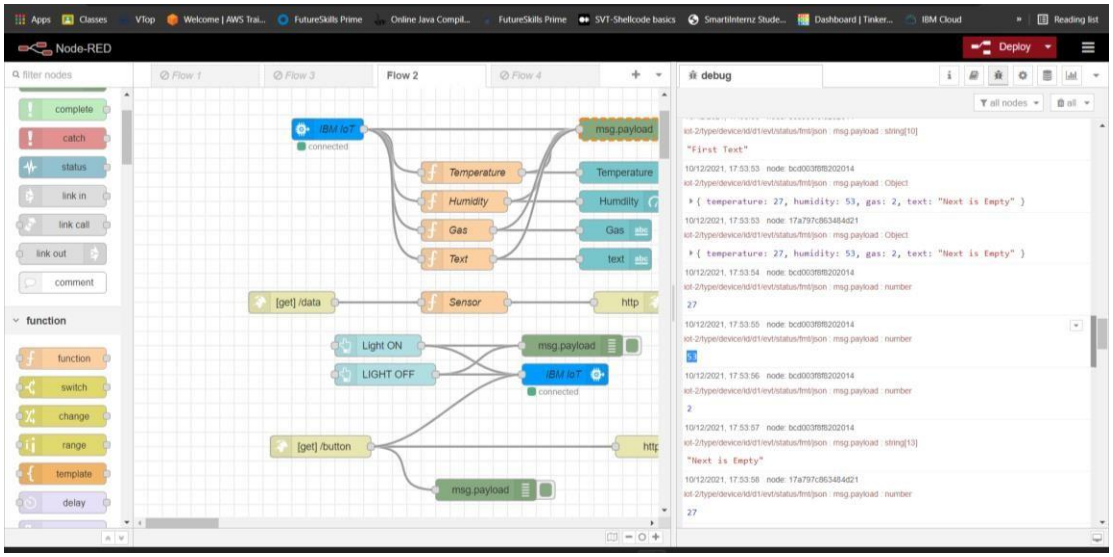


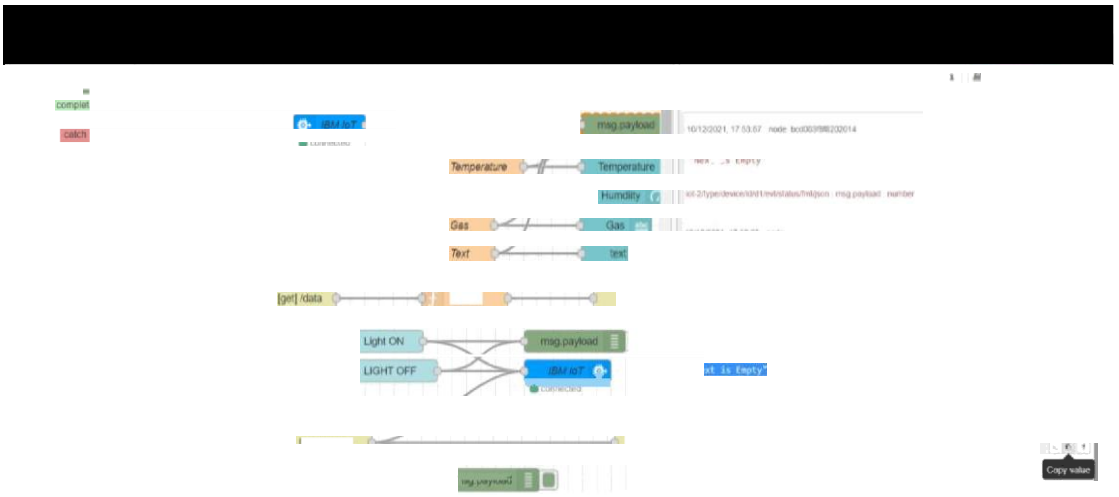
3. Design the working of the app using the Blocks available in the MIT App Inventor app.

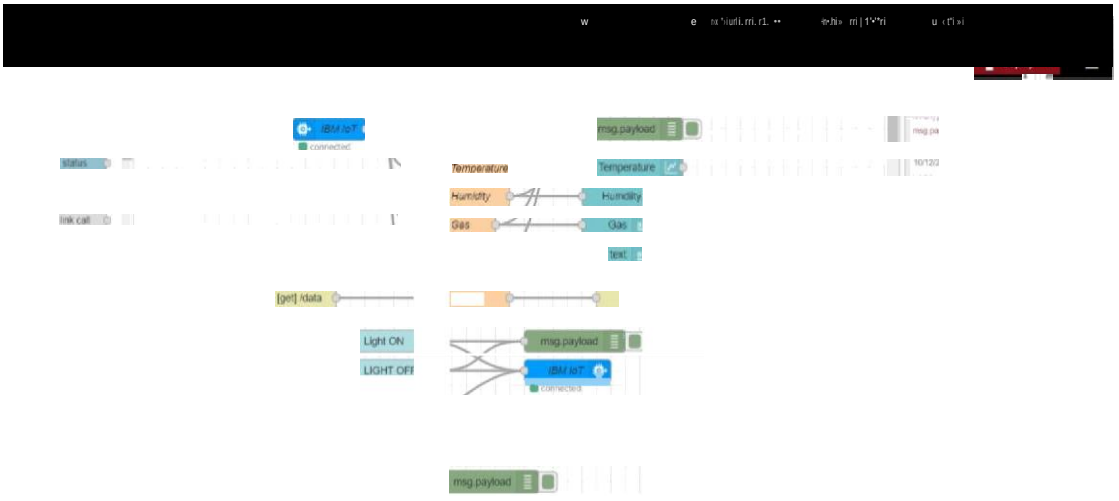


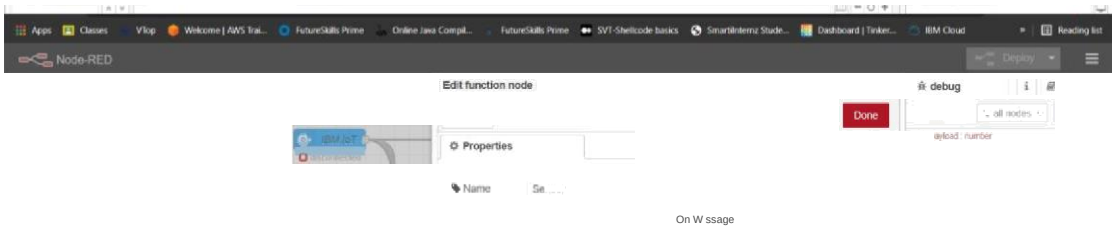


4. Configure the Data Flow and Structure of the program on Node-RED application. Output will also be available on Node-RED debug console as shown below.




msg.payload
Temperature
Humidity
Gas
Text
[get] /data
Light ON
LIGHT OFF
IBM IoT
Copy value


IBM IoT
msg.payload
Temperature
Humidity
Gas
[get] /data
Light ON
LIGHT OFF


Apps
Node-RED
Deploy
Edit function node
debug
Done
Properties
Name

On W ssage

5. Output available on web page using URLs.

{"command":"First Text"}