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**Subject: IOTL**

### Lab Practical 13

#### Problem Statement:

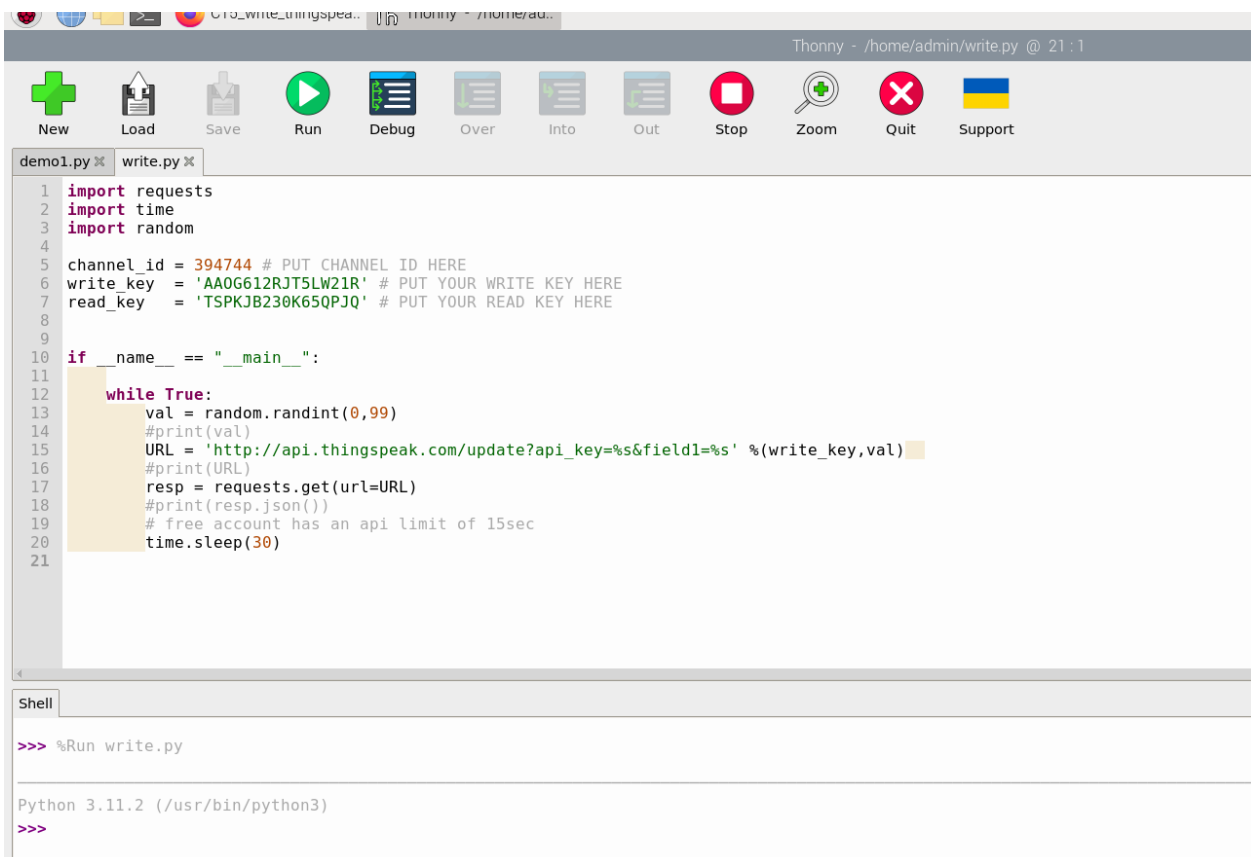
Study of ThingSpeak – an API and Web Service for the Internet of Things (Mini Project: Same can be done parallel with PBL).

#### //Code :

```
import requests
import time
import random

channel_id = 394744 # PUT CHANNEL ID HERE
write_key = 'AAOG612RJT5LW21R' # PUT YOUR WRITE KEY HERE
read_key = 'TSPKJB230K65QPJQ' # PUT YOUR READ KEY HERE
if __name__ == "__main__":
    while True:
        val = random.randint(0,99)
        #print(val)
        URL = 'http://api.thingspeak.com/update?api_key=%s&field1=%s' %(write_key,val)
        #print(URL)
        resp = requests.get(url=URL)
        #print(resp.json())
        # free account has an api limit of 15sec
        time.sleep(30)
```

#### OUTPUT:



```
1 import requests
2 import time
3 import random
4
5 channel_id = 394744 # PUT CHANNEL ID HERE
6 write_key = 'AAOG612RJT5LW21R' # PUT YOUR WRITE KEY HERE
7 read_key = 'TSPKJB230K65QPJQ' # PUT YOUR READ KEY HERE
8
9
10 if __name__ == "__main__":
11
12     while True:
13         val = random.randint(0,99)
14         #print(val)
15         URL = 'http://api.thingspeak.com/update?api_key=%s&field1=%s' %(write_key,val)
16         #print(URL)
17         resp = requests.get(url=URL)
18         #print(resp.json())
19         # free account has an api limit of 15sec
20         time.sleep(30)
21
```

```
>>> %Run write.py

Python 3.11.2 (/usr/bin/python3)
>>>
```

## Code:

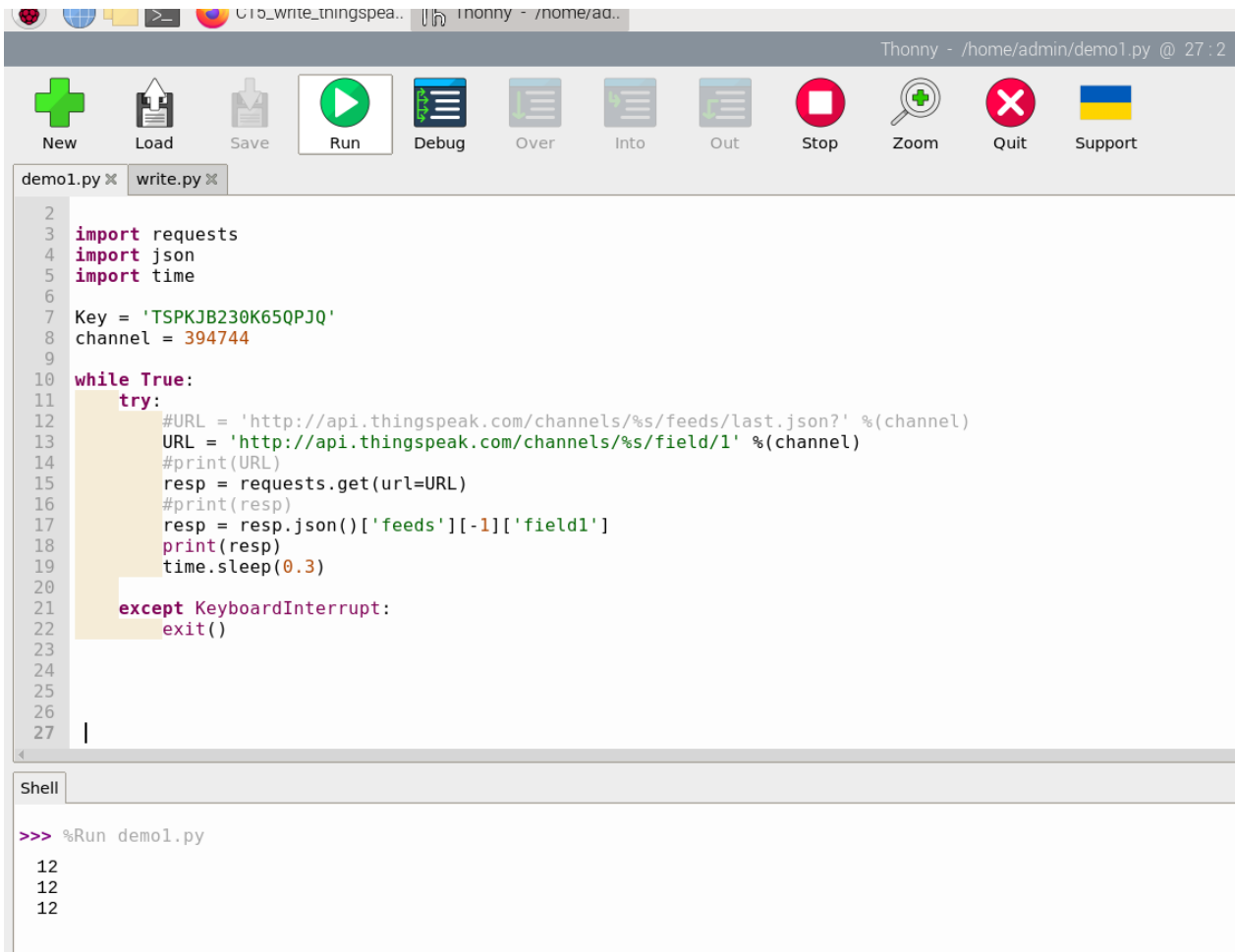
```
import requests
import json
import time
```

```
Key = 'TSPKJB230K65QPJQ'
channel = 394744
```

```
while True:
    try:
        #URL = 'http://api.thingspeak.com/channels/%s/feeds/last.json?' %(channel)
        URL = 'http://api.thingspeak.com/channels/%s/field/1' %(channel)
        #print(URL)
        resp = requests.get(url=URL)
        #print(resp)
        resp = resp.json()['feeds'][-1]['field1']
        print(resp)
        time.sleep(0.3)

    except KeyboardInterrupt:
        exit()
```

## OUTPUT:



The screenshot shows the Thonny IDE interface. The top toolbar includes icons for New, Load, Save, Run, Debug, Over, Into, Out, Stop, Zoom, Quit, and Support. The main editor window displays a Python script named 'demo1.py' with the following code:

```
2
3 import requests
4 import json
5 import time
6
7 Key = 'TSPKJB230K65QPJQ'
8 channel = 394744
9
10 while True:
11     try:
12         #URL = 'http://api.thingspeak.com/channels/%s/feeds/last.json?' %(channel)
13         URL = 'http://api.thingspeak.com/channels/%s/field/1' %(channel)
14         #print(URL)
15         resp = requests.get(url=URL)
16         #print(resp)
17         resp = resp.json()['feeds'][-1]['field1']
18         print(resp)
19         time.sleep(0.3)
20
21     except KeyboardInterrupt:
22         exit()
23
24
25
26
27 |
```

Below the editor is a 'Shell' window showing the output of the script:

```
>>> %Run demo1.py
12
12
12
```