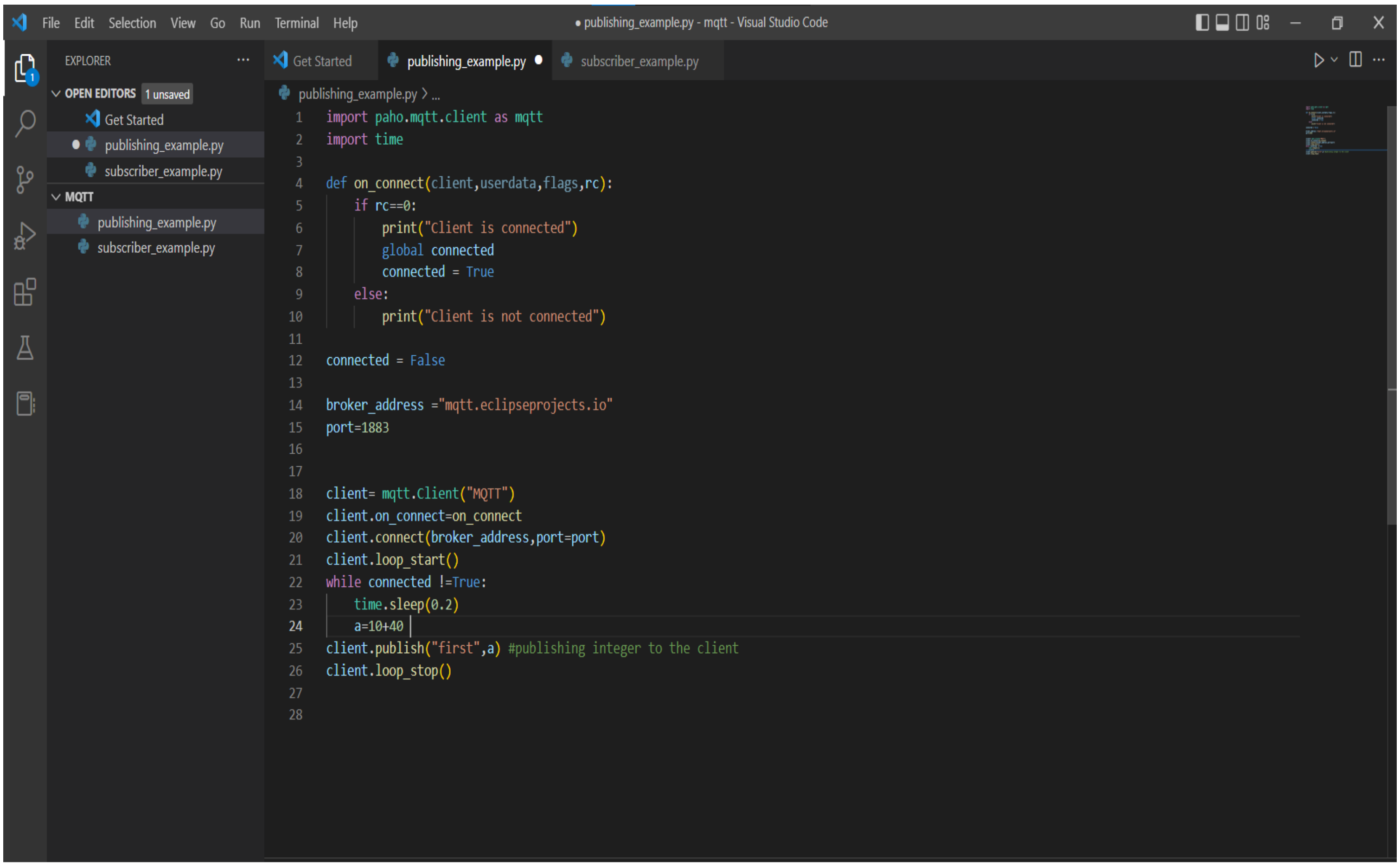
Task 2 – Basics of MQTT

name - Kathit Bhongale

In this task, a free online MQTT server is used to host the service

Two devices (a laptop and an android phone) are used for subscribing and publishing messages

1) Publishing a message (integer)



```python
import paho.mqtt.client as mqtt
import time

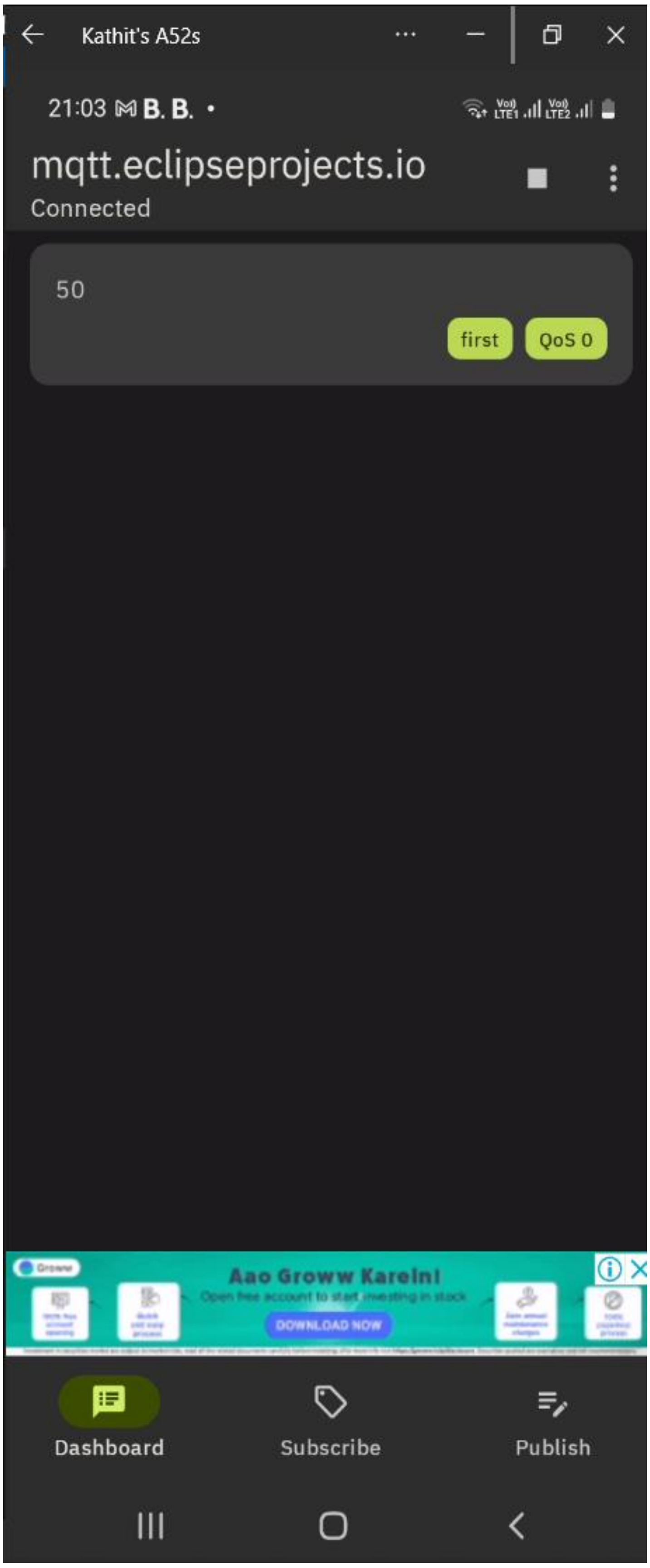
def on_connect(client,userdata,flags,rc):
    if rc==0:
        print("Client is connected")
        global connected
        connected = True
    else:
        print("Client is not connected")

connected = False

broker_address ="mqtt.eclipseprojects.io"
port=1883


client= mqtt.Client("MQTT")
client.on_connect=on_connect
client.connect(broker_address,port=port)
client.loop_start()
while connected !=True:
    time.sleep(0.2)
    a=10+40
client.publish("first",a) #publishing integer to the client
client.loop_stop()
```

Published message in the client


Kathit's A52s

21:03

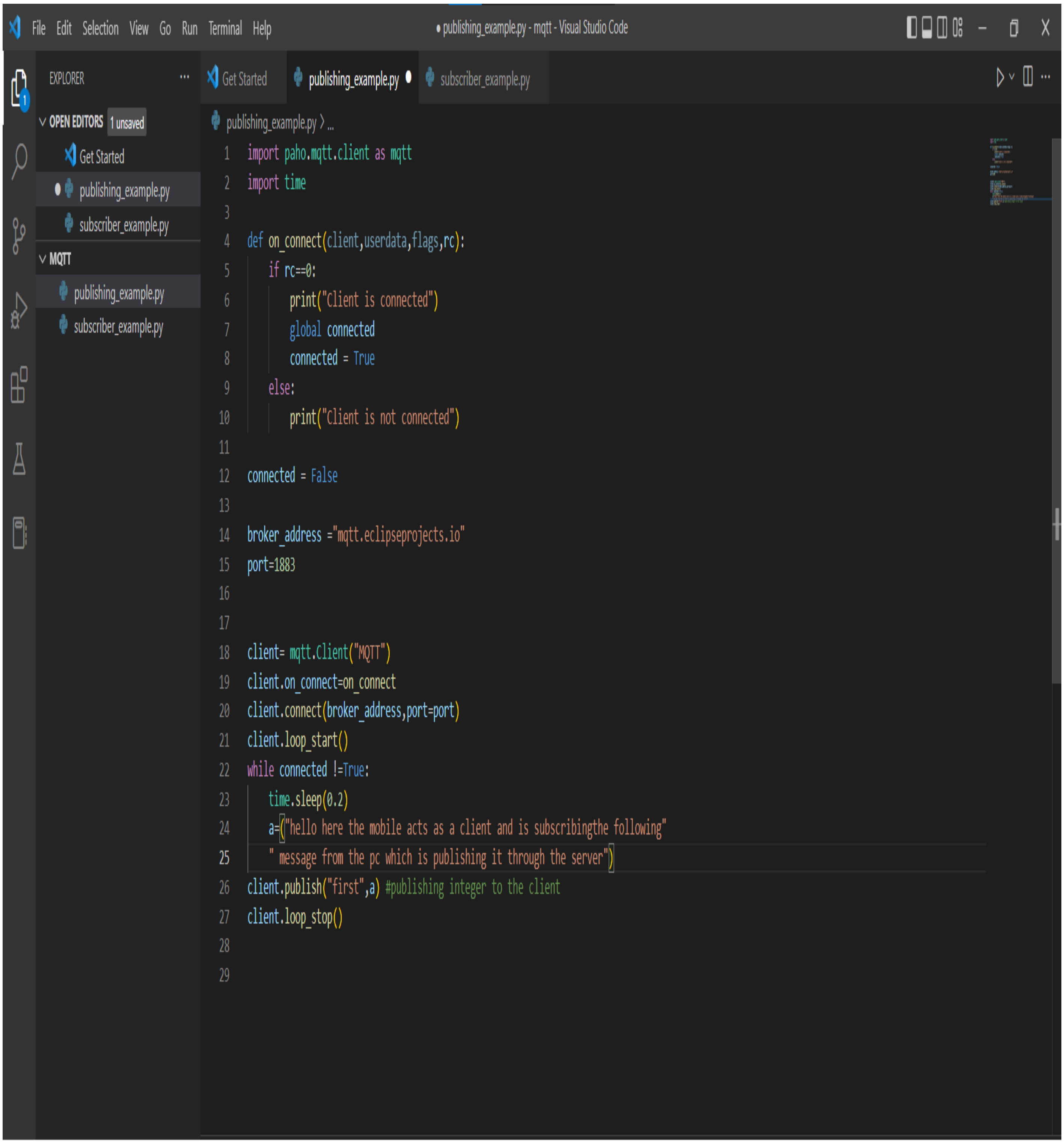
mqtt.eclipseprojects.io

Connected

50

first QoS 0

2) Publishing a message (string)



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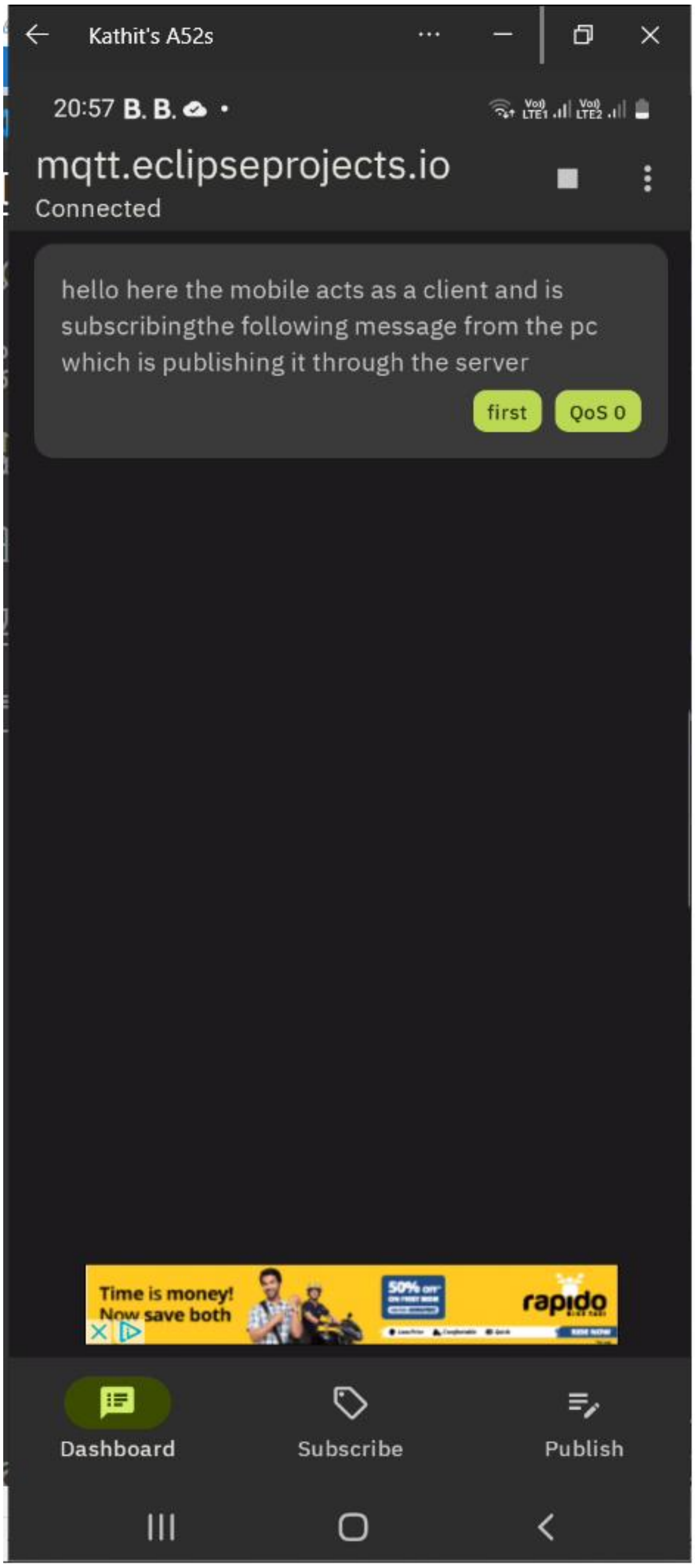
port=1883


client= mqtt.Client("MQTT")
client.on_connect=on_connect
client.connect(broker_address,port=port)
client.loop_start()
while connected !=True:
    time.sleep(0.2)
    a=("hello here the mobile acts as a client and is subscribingthe following"
    " message from the pc which is publishing it through the server")
client.publish("first",a) #publishing integer to the client
client.loop_stop()
```

Published message in the client device


Kathit's A52s

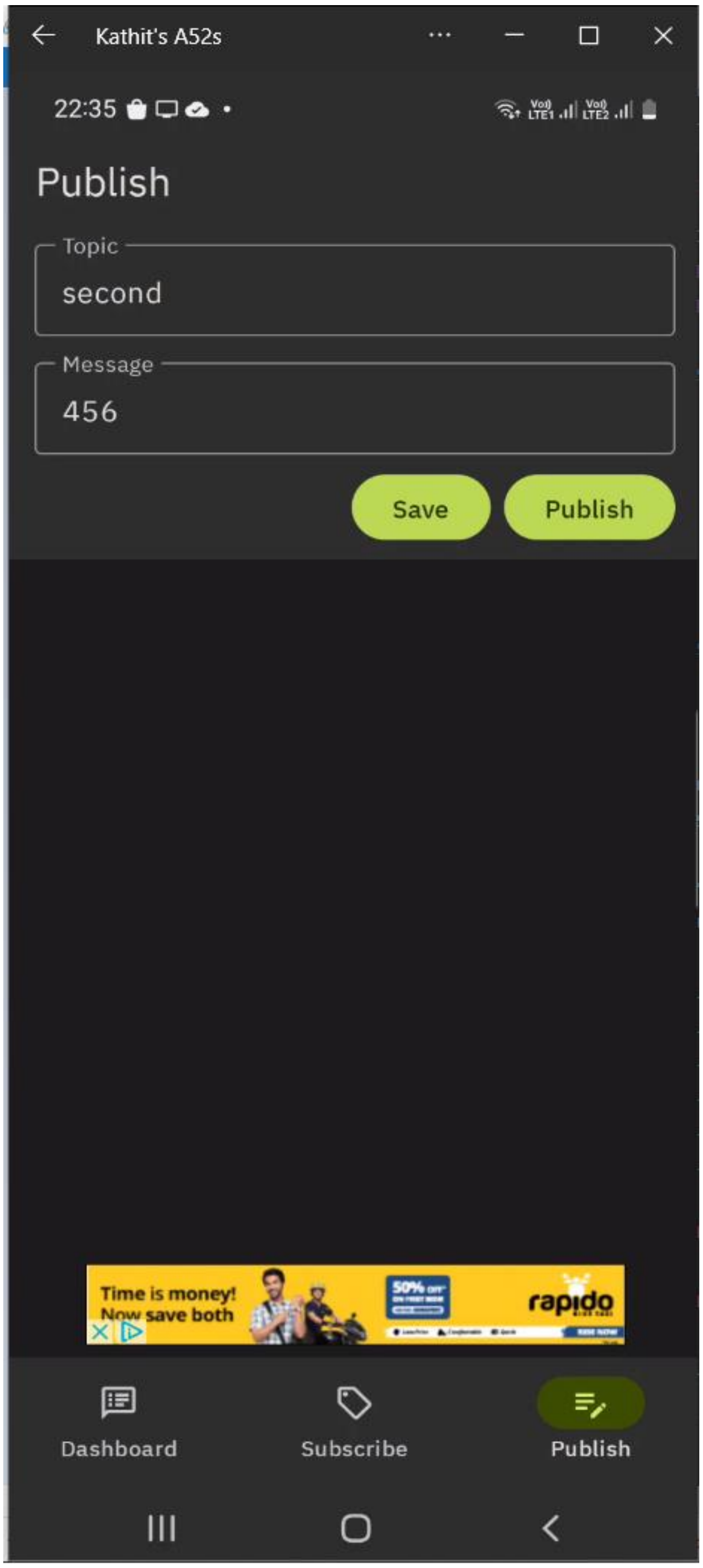
20:57 B. B.

mqtt.eclipseprojects.io

Connected

hello here the mobile acts as a client and is subscribingthe following message from the pc which is publishing it through the server

3) Publishing the message from mobile (integer)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22:35

Publish

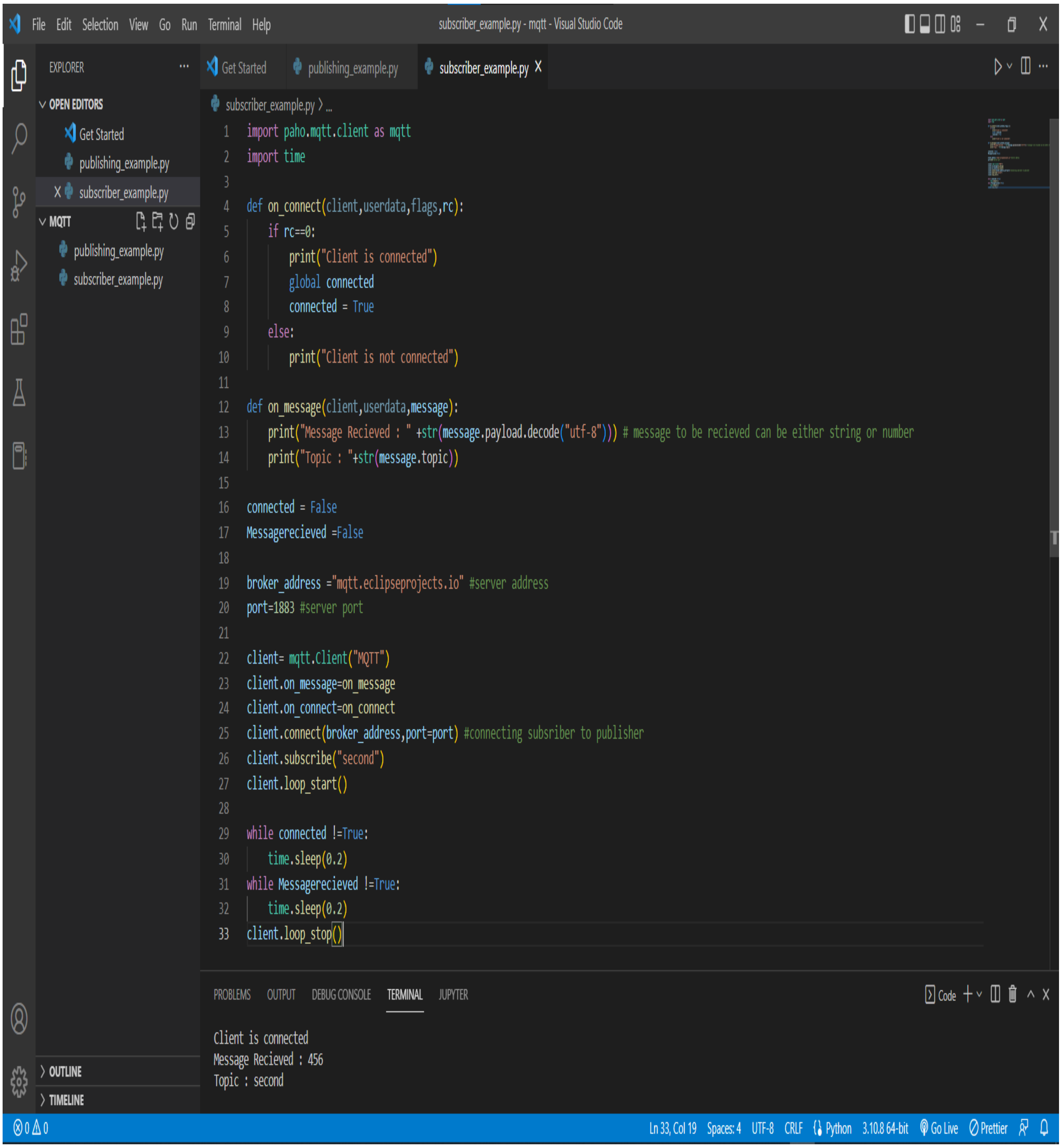
Topic

second

Message

456

Output in the client (laptop acting as a subscriber)



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import time

def on_connect(client,userdata,flags,rc):
    if rc==0:
        print("Client is connected")
        global connected
        connected = True
    else:
        print("Client is not connected")

def on_message(client,userdata,message):
    print("Message Recieved : " +str(message.payload.decode("utf-8"))) # message to be recieved can be either string or number
    print("Topic : "+str(message.topic))

connected = False
Messagerecieved =False

broker_address ="mqtt.eclipseprojects.io" #server address
port=1883 #server port

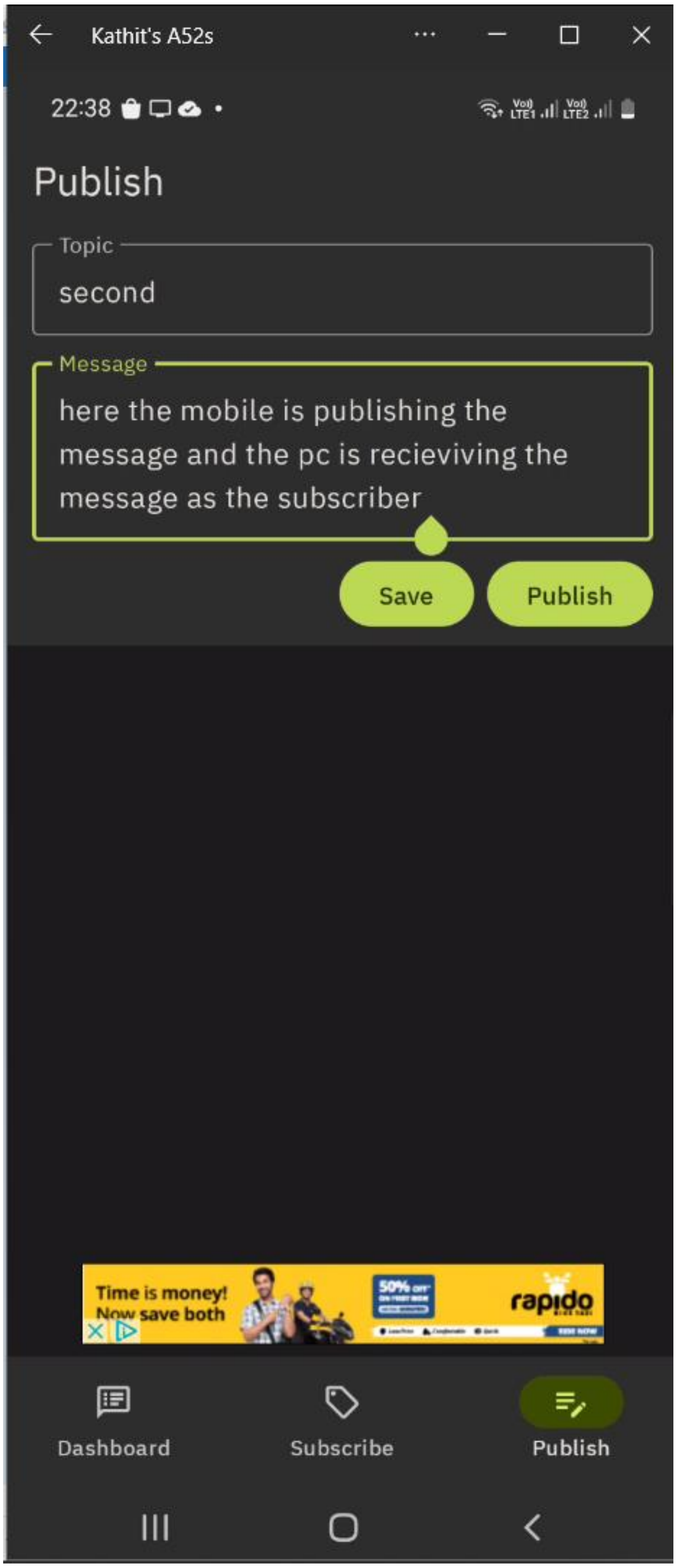
client= mqtt.Client("MQTT")
client.on_message=on_message
client.on_connect=on_connect
client.connect(broker_address,port=port) #connecting subsriber to publisher
client.subscribe("second")
client.loop_start()

while connected !=True:
    time.sleep(0.2)
while Messagerecieved !=True:
    time.sleep(0.2)
client.loop_stop()
```

```
Client is connected
Message Recieved : 456
Topic : second
```

Message received in the terminal

4) Publishing message from the mobile (string)


Kathit's A52s

22:38

Publish

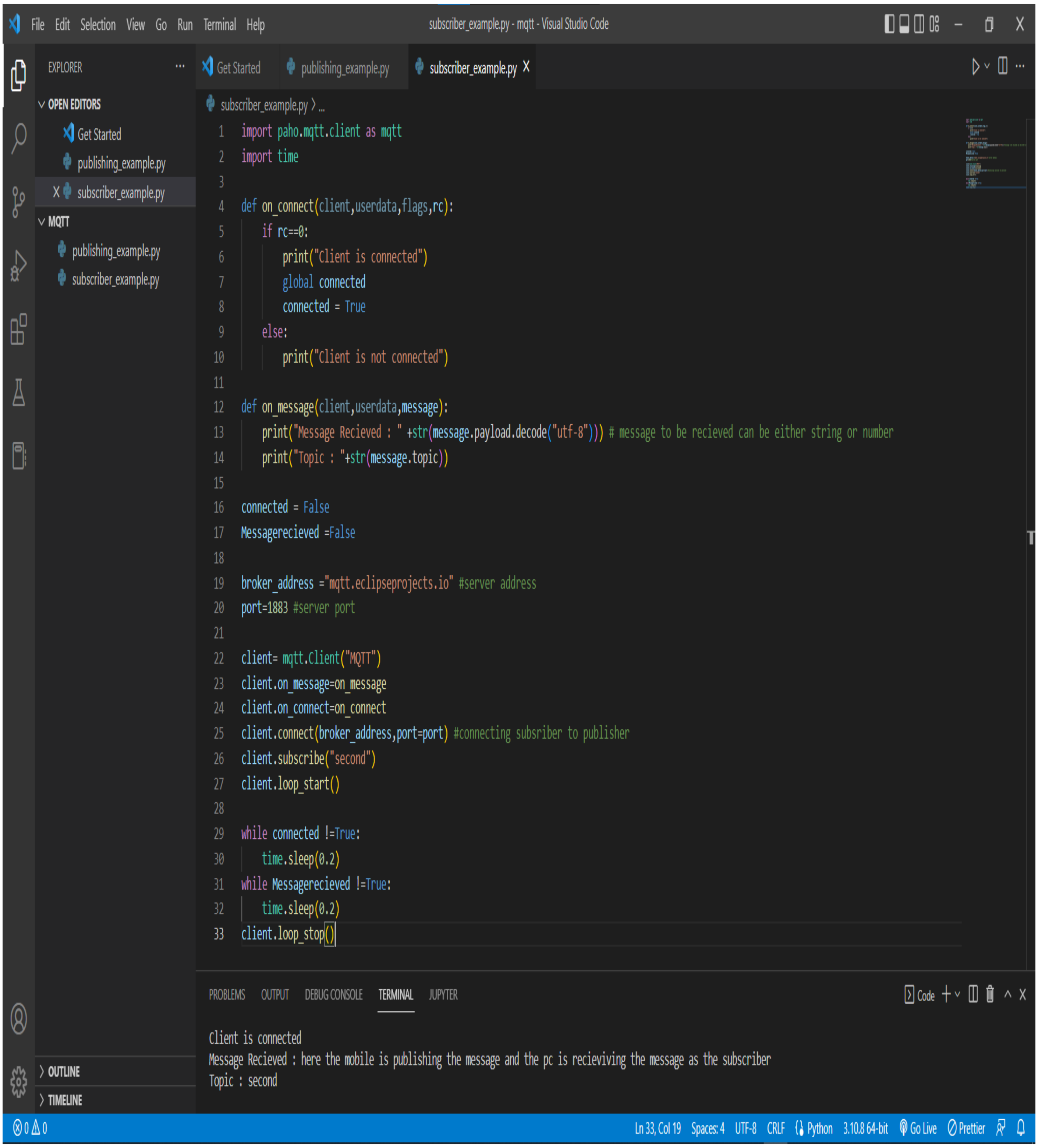
Topic

second

Message

here the mobile is publishing the message and the pc is recieviving the message as the subscriber

Output in the client (laptop acting as a subscriber)


subscriber_example.py - mqtt - Visual Studio Code
EXPLORER
OPEN EDITORS
Get Started
publishing_example.py
subscriber_example.py
MQTT
publishing_example.py
subscriber_example.py
OUTLINE
TIMELINE
PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL JUPYTER
Ln 33, Col 19 Spaces: 4 UTF-8 CRLF Python 3.10.8 64-bit Go Live Prettier

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    print("Message Recieved : " +str(message.payload.decode("utf-8"))) # message to be recieved can be either string or number
    print("Topic : "+str(message.topic))

connected = False
Messagerecieved =False

broker_address ="mqtt.eclipseprojects.io" #server address
port=1883 #server port

client= mqtt.Client("MQTT")
client.on_message=on_message
client.on_connect=on_connect
client.connect(broker_address,port=port) #connecting subsriber to publisher
client.subscribe("second")
client.loop_start()

while connected !=True:
    time.sleep(0.2)
while Messagerecieved !=True:
    time.sleep(0.2)
client.loop_stop()
```

```
Client is connected
Message Recieved : here the mobile is publishing the message and the pc is recieiving the message as the subscriber
Topic : second
```

Message Received in the terminal