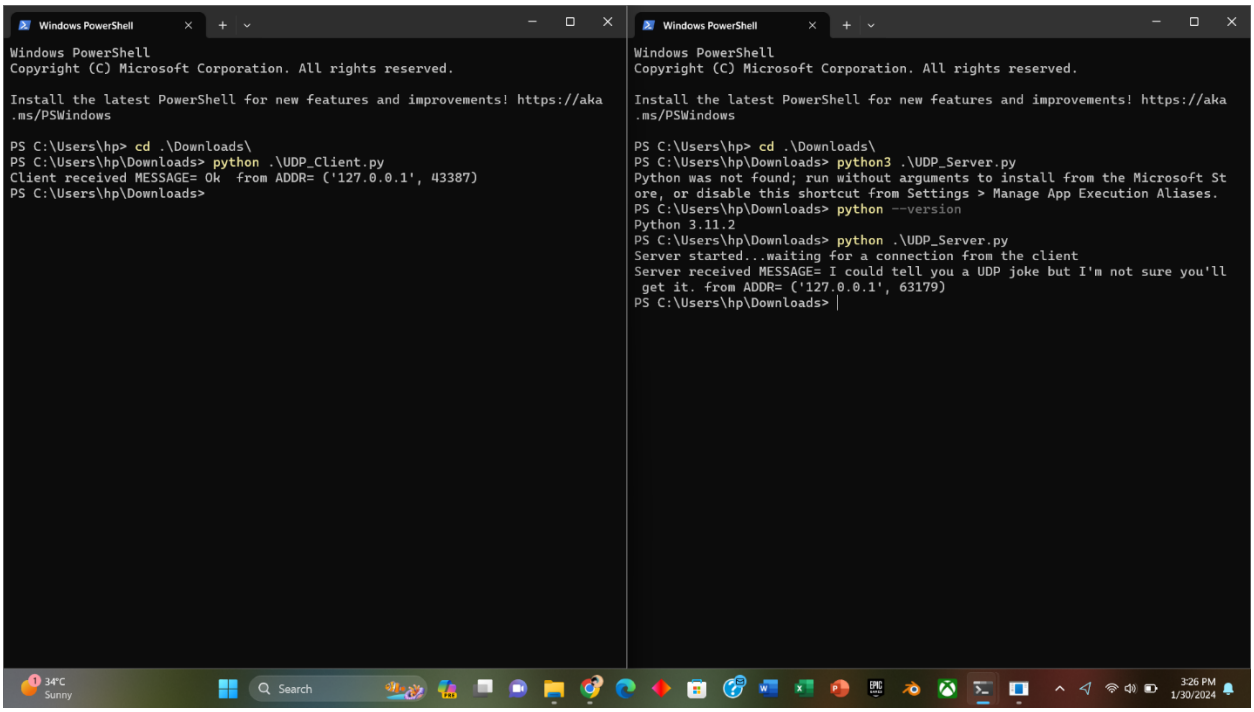
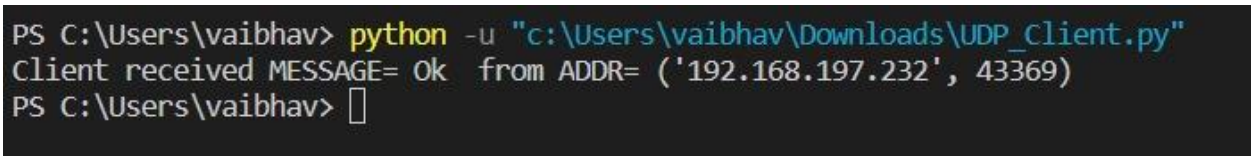
LAB 3: Socket Programming using Python

PART 1: UDP SOCKETS

Q1)



Q2)



Q3)

```
PS C:\Users\hp\Downloads> python -u "c:\Users\hp\Downloads\udp_serv.py"
Server started...waiting for a connection from the client
Server received MESSAGE= SEND_TIME from ADDR= ('192.168.197.252', 51467)
Server started...waiting for a connection from the client
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Server started...waiting for a connection from the client
Server received MESSAGE= SEND_TIME from ADDR= ('192.168.197.252', 51467)
```

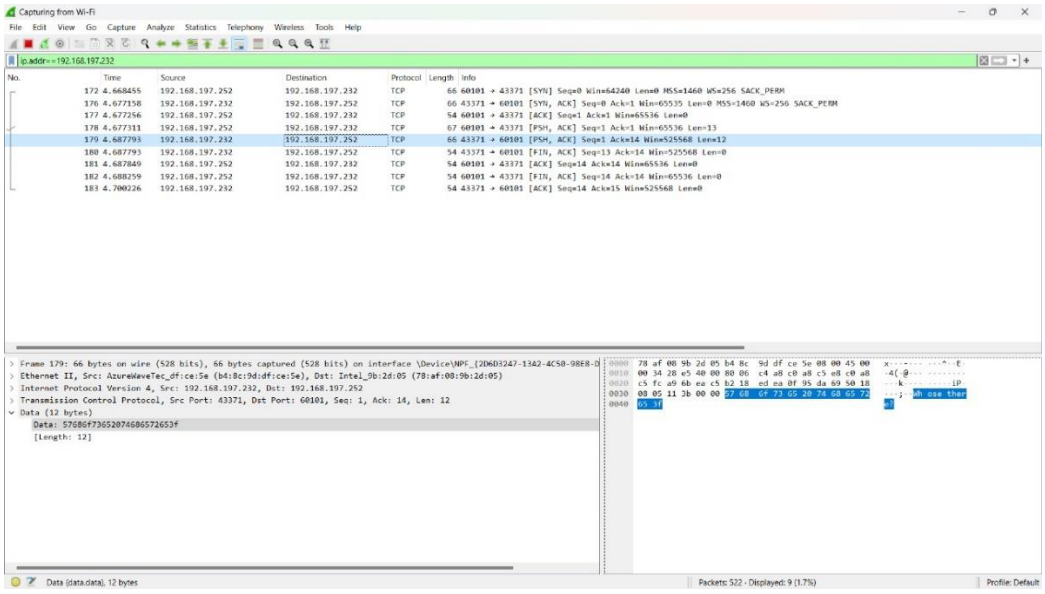
```
PS C:\Users\vaibhav> python -u "c:\Users\vaibhav\Downloads\UDP_Client.py"
Client received MESSAGE= 2024-01-30 16:06:08  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:10  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:12  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:14  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:15  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:16  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:18  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:20  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:21  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:23  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:24  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:26  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:27  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:29  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:31  from ADDR= ('192.168.197.232', 43369)
Client received MESSAGE= 2024-01-30 16:06:32  from ADDR= ('192.168.197.232', 43369)
```

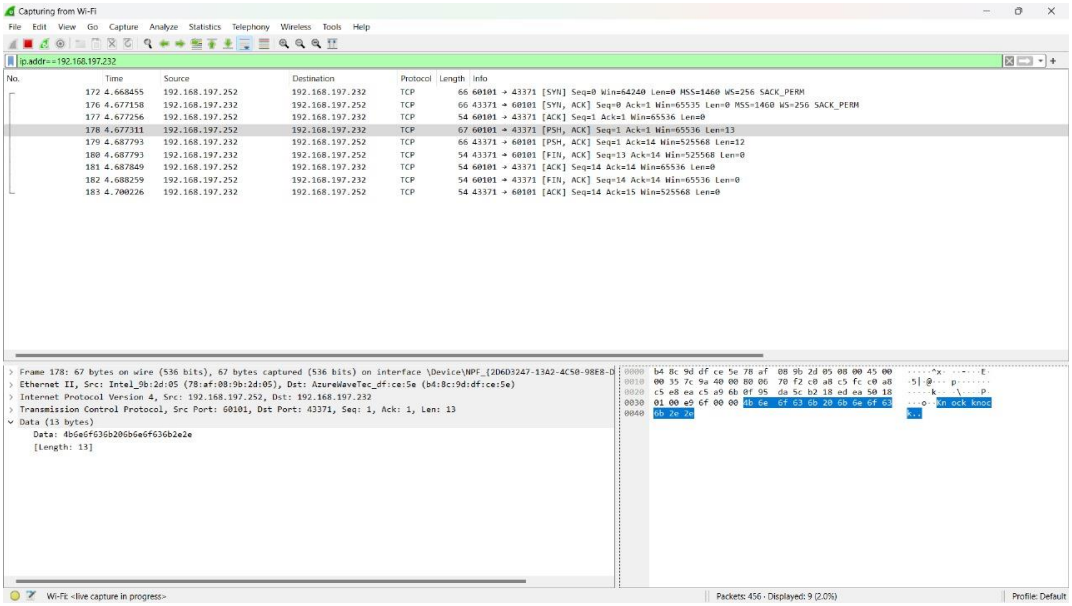
Q4)

```
PS C:\Users\hp\Downloads> python -u "c:\Users\hp\Downloads\TCP_Server.py"
Server started...waiting for a connection from the client
Connection initiated from  ('127.0.0.1', 61854)
SERVER RECEIVED:  Knock knock..
PS C:\Users\hp\Downloads>
```

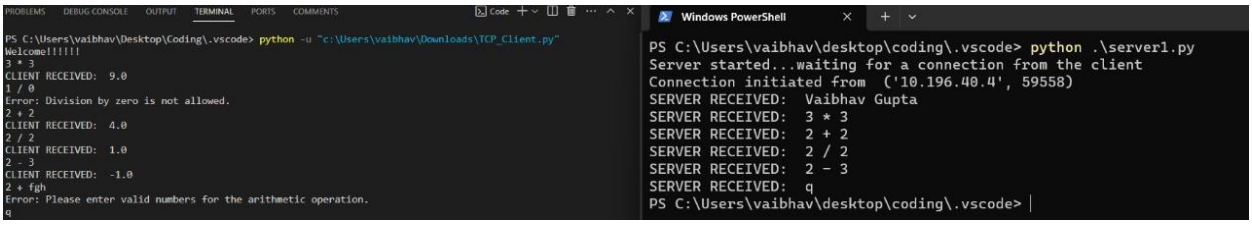
```
PS C:\Users\hp\Downloads> python .\TCP_Client.py
CLIENT RECEIVED:  Whose there?
PS C:\Users\hp\Downloads>
```

Q5)





Q6)



Q7)

Stateful Protocol:

In a stateful protocol, the current state of the communication is remembered by the receiving party. Sequence and context of messages matter.

Stateless Protocol:

In a stateless protocol, each message is independent and not related to previous or future messages. There is no knowledge of past or future communication states.

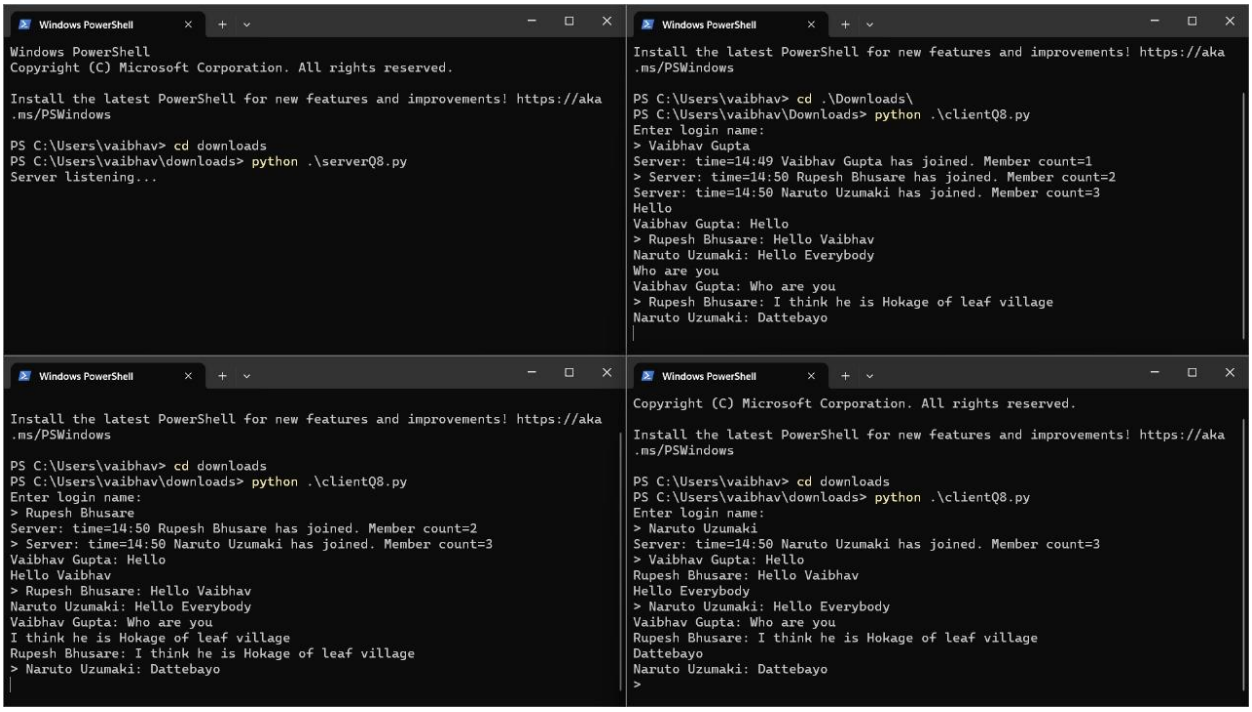
A) Yes

B) No

C) No

D) Yes

Q8)


Windows PowerShell
Windows PowerShell
Copyright (C) Microsoft Corporation. All rights reserved.
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS C:\Users\vaibhav> cd downloads
PS C:\Users\vaibhav\downloads> python .\serverQ8.py
Server listening...
Windows PowerShell
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS C:\Users\vaibhav> cd .\Downloads\
PS C:\Users\vaibhav\Downloads> python .\clientQ8.py
Enter login name:
> Vaibhav Gupta
Server: time=14:49 Vaibhav Gupta has joined. Member count=1
> Server: time=14:50 Rupesh Bhusare has joined. Member count=2
Server: time=14:50 Naruto Uzumaki has joined. Member count=3
Hello
Vaibhav Gupta: Hello
> Rupesh Bhusare: Hello Vaibhav
Naruto Uzumaki: Hello Everybody
Who are you
Vaibhav Gupta: Who are you
> Rupesh Bhusare: I think he is Hokage of leaf village
Naruto Uzumaki: Dattebayo
Windows PowerShell
Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS C:\Users\vaibhav> cd downloads
PS C:\Users\vaibhav\downloads> python .\clientQ8.py
Enter login name:
> Rupesh Bhusare
Server: time=14:50 Rupesh Bhusare has joined. Member count=2
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Vaibhav Gupta: Hello
Hello Vaibhav
> Rupesh Bhusare: Hello Vaibhav
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I think he is Hokage of leaf village
Rupesh Bhusare: I think he is Hokage of leaf village
> Naruto Uzumaki: Dattebayo
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Install the latest PowerShell for new features and improvements! https://aka.ms/PSWindows
PS C:\Users\vaibhav> cd downloads
PS C:\Users\vaibhav\downloads> python .\clientQ8.py
Enter login name:
> Naruto Uzumaki
Server: time=14:50 Naruto Uzumaki has joined. Member count=3
> Vaibhav Gupta: Hello
Rupesh Bhusare: Hello Vaibhav
Hello Everybody
> Naruto Uzumaki: Hello Everybody
Vaibhav Gupta: Who are you
Rupesh Bhusare: I think he is Hokage of leaf village
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Naruto Uzumaki: Dattebayo
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