Ex-12

30/12/24

TCP / UDP

a) Implement echo client servers during TCP/UDP sockets :

Client :

```
import socket
import time
def ping_server (host = '127.0.0.1', port = 12345):
    with socket.socket (socket.AF_INET,
            socket.SOCK_DGRAM) as s :
        try :
            s.sendto (b "Hello", (host, port))
        except s.timeout :
            print ("Request timed out")
if __name__ == "__main__":
    ping_server ()
```

Server :

```
import socket
def start_server (host = '127.0.0.1', port = 12345):
    with socket.socket (AF_INET, socket.SOCK_DGRAM)
        as s :
        s.bind ((host, port))
        print (f" UDP server running on {host}, {port}")
        while True :
            data, addr = s.recvfrom (1024)
```

```
print(f"Received from {addr} : {data.decode()}")

if __name__ == "main":
    start_server()
```

Output:

```
python server.py
VDP server running on 127.0.0.12345
Received message from ('127.0.0.1', 59290) : Hello
python client.py
Received reply from server : Hello, client
```

b) Chat :

chat_serv.py :

```
import socket
def receive():
    port = 12345
    host = '127.0.0.1'
    with socket.socket(AF_INET, socket.SOCK_DGRAM)
        as s:
        s.bind((host, port))
        while True:
            d, addr = s.recvfrom(1024)
            print("Client:", d.decode())
            a = input("Enter reply:")
```

```
        s.sendto (a.encode(), addr)
        if (a == "end")
            break
            exit
recv1()
```

recv2.py

```
import socket
import time
def recv2(a):
host = "127.0.0.1"
port = 12345
with socket.socket(socket.AF_INET, socket.SOCK_
    DGRAM) as s:
    s.sendto (a.encode(), (host, port))
    d, addr = s.recvfrom (1024)
    print (f{d.decode()})
    while True:
        a = input ("Enter Message:")
        if (a == "end")
            recv2(a)
            break
        else
            recv2(a)
```

Output:

```
python chat-serv.py
client {'hi'}
Enter Reply hello
```

client {"How are you"}

Enter Reply I am fine

python recer.py

Enter Message Hi

{'hello'}

Enter Message How are you

{"I am fine"}

Result:

Thus, the python program to implement TCP/UDP sockets and chat application has been implemented successfully.

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