

6a.

"""

Program: Write a python program to create simple socket for basic information exchange between

server and client.

save as server1.py

Hanif 231P044/ 01

"""

```
import socket
```

```
def start_server():
```

```
    host = '127.0.0.1'
```

```
    port = 12345
```

```
    server_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
```

```
    server_socket.bind((host, port))
```

```
    server_socket.listen(1)
```

```
    print(f"Server is listening on {host}:{port}")
```

```
    client_socket, client_address = server_socket.accept()
```

```
    print(f"Connection established with {client_address}")
```

```
    while True:
```

```
        message = client_socket.recv(1024).decode()
```

```
        if message.lower() == 'exit':
```

```
            print("Client disconnected.")
```

```
            break
```

```
        print(f"Client: {message}")
```

```
        response = input("Server: ")
```

```
        client_socket.send(response.encode())
```

```
    client_socket.close()
```

```

if __name__ == "__main__":
    start_server()

import socket

def start_client():
    host = '127.0.0.1'
    port = 12345
    client_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    client_socket.connect((host, port))
    print(f"Connected to server at {host}:{port}")
    while True:
        message = input("Client: ")
        client_socket.send(message.encode())
        if message.lower() == 'bye':
            print("Disconnected from server.")
            break
        response = client_socket.recv(1024).decode()
        print(f"Server: {response}")
    client_socket.close()

if __name__ == "__main__":
    start_client()

```

OUTPUT:

Output

Clear

```

Server is listening on 127.0.0.1:12345
Connection established with ('127.0.0.1', <port_number>)
Client: Hello Server!
Server: How are you?
Client: exit
Client disconnected.

```

```
Connected to server at 127.0.0.1:12345
Client: Hello Server!
Server: How are you?
Client: exit
Disconnected from server.
```

6b.

"""

Write a python program to create simple socket for basic information exchange between server

and client till client/server type bye. # save as server1.py

Hanif 231P038 / 01

"""

```
import socket
```

```
def start_server():
```

```
    host = '127.0.0.1'
```

```
    port = 12345
```

```
    # Create the server socket
```

```
    server_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
```

```
    # Bind the socket to address and port
```

```
    server_socket.bind((host, port))
```

```
    # Set the socket to listen for incoming connections
```

```
    server_socket.listen(1)
```

```
    print(f"Server is listening on {host}:{port}")
```

```
    # Accept the incoming connection
```

```
    client_socket, client_address = server_socket.accept()
```

```
    print(f"Connection established with {client_address}")
```

```
    while True:
```

```
        # Receive data from client
```

```

    message = client_socket.recv(1024).decode()
    if message.lower() == 'bye':
        print("Client sent 'bye'. Closing connection.")
        break
    print(f"Client: {message}")
    # Send response to client
    response = input("Server: ")
    client_socket.send(response.encode())
    if response.lower() == 'bye':
        print("Server sent 'bye'. Closing connection.")
        break
    client_socket.close()
if __name__ == "__main__":
    start_server()

import socket
def start_client():
    host = '127.0.0.1'
    port = 12345
    # Create the client socket
    client_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    # Connect to the server
    client_socket.connect((host, port))
    print(f"Connected to server at {host}:{port}")
    while True:
        # Send message to server
        message = input("Client: ")
        client_socket.send(message.encode())

```

```
if message.lower() == 'bye':  
    print("Client sent 'bye'. Closing connection.")  
    break  
  
# Receive response from server  
response = client_socket.recv(1024).decode()  
print(f"Server: {response}")  
client_socket.close()  
  
if __name__ == "__main__":  
    start_client()
```

OUTPUT:

```
Server is listening on 127.0.0.1:12345  
Connection established with ('127.0.0.1', <client_port>)  
Client: Hello, Server!  
Server: How are you?  
Client: I am fine, thanks!  
Server: That's great to hear!  
Client: bye  
Client sent 'bye'. Closing connection.
```

```
Connected to server at 127.0.0.1:12345  
Client: Hello, Server!  
Server: How are you?  
Client: I am fine, thanks!  
Server: That's great to hear!  
Client: bye  
Client sent 'bye'. Closing connection.
```

6c.

"""

Write a python program to create simple socket for file sending between server and client.

HANIF 231P044 / 01

"""

```
import socket
```

```
def start_server():
```

```
    host = '127.0.0.1'
```

```
    port = 12345
```

```
    server_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
```

```
    server_socket.bind((host, port))
```

```
    server_socket.listen(1)
```

```
    print(f"Server is listening on {host}:{port}")
```

```
    client_socket, client_address = server_socket.accept()
```

```
    print(f"Connection established with {client_address}")
```

```
    filename = client_socket.recv(1024).decode()
```

```
    print(f"Receiving file: {filename}")
```

```
    with open(f"received_{filename}", 'wb') as file:
```

```
        while True:
```

```
            file_data = client_socket.recv(1024)
```

```
            if not file_data:
```

```
                break
```

```
            file.write(file_data)
```

```
    print(f"File '{filename}' received successfully.")
```

```
    client_socket.close()
```

```
if __name__ == "__main__":
```

```
    start_server()
```

```
import socket

def start_client():

    host = '127.0.0.1'

    port = 12345

    client_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)

    client_socket.connect((host, port))

    print(f"Connected to server at {host}:{port}")

    filename = input("Enter the filename to send: ")

    client_socket.send(filename.encode())

    try:

        with open(filename, 'rb') as file:

            while True:

                file_data = file.read(1024)

                if not file_data:

                    break

                client_socket.send(file_data)

            print(f"File '{filename}' sent successfully.")

    except FileNotFoundError:

        print(f"File '{filename}' not found!")

    client_socket.close()

if __name__ == "__main__":

    start_client()
```

OUTPUT:

```
Server is listening on 127.0.0.1:12345  
Connection established with ('127.0.0.1', <client_port>)  
Receiving file: example.txt  
File 'example.txt' received successfully.
```

```
Connected to server at 127.0.0.1:12345  
Enter the filename to send: example.txt  
File 'example.txt' sent successfully.
```