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COURSE: Bsc. IT.

NETWORK PROGRAMMING ASSIGNMENT 2

Task:

BIT03205-PT/DL-ALL-MUSIKAFREDRICK > New section Assignment 2

 **Assignment 2**

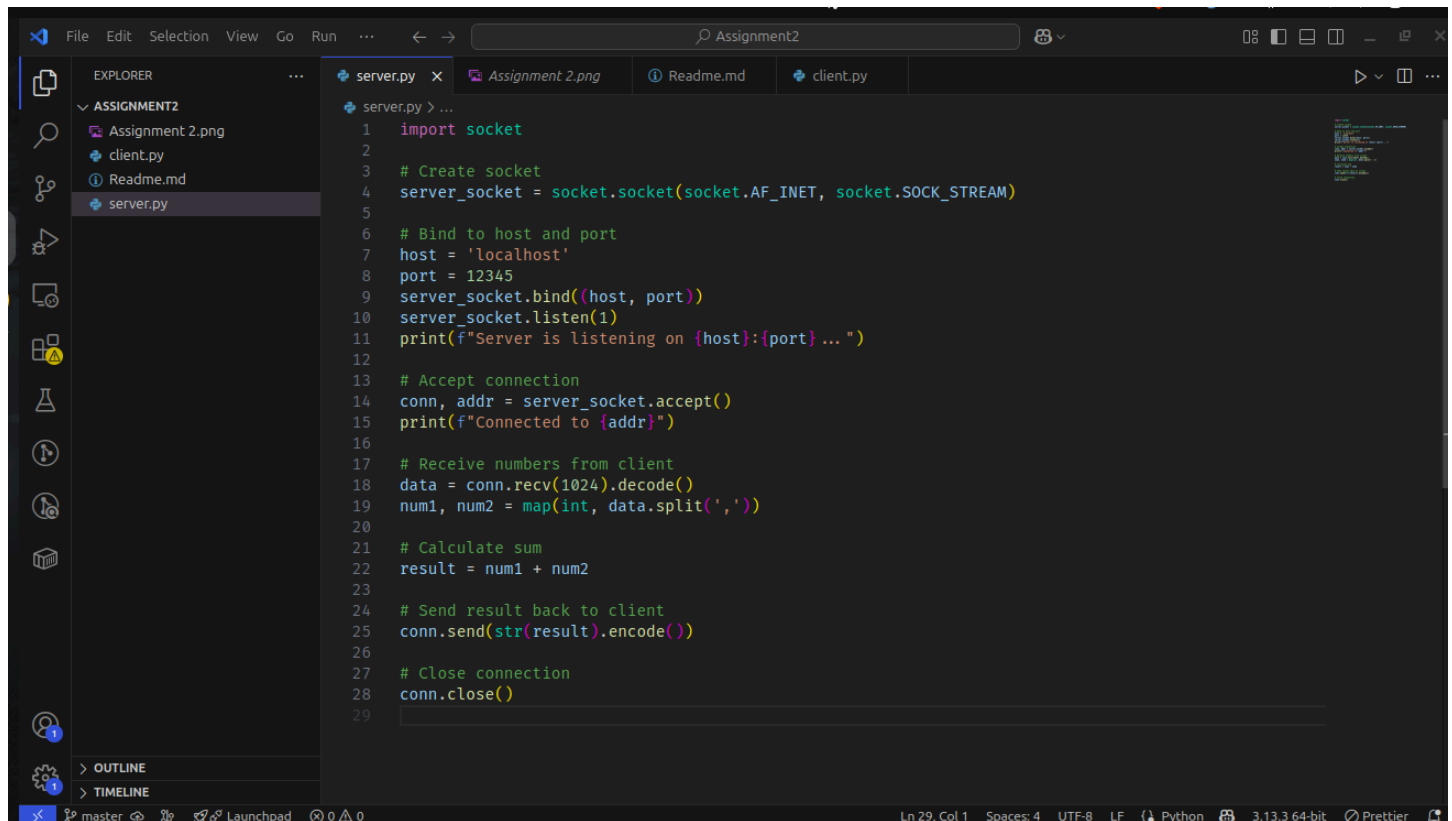
Opened: Saturday, 28 June 2025, 12:00 AM
Due: Saturday, 5 July 2025, 12:00 AM

Write a program that accepts two numbers from client side calculate s the sum in the server and returns results back to client

Add submission

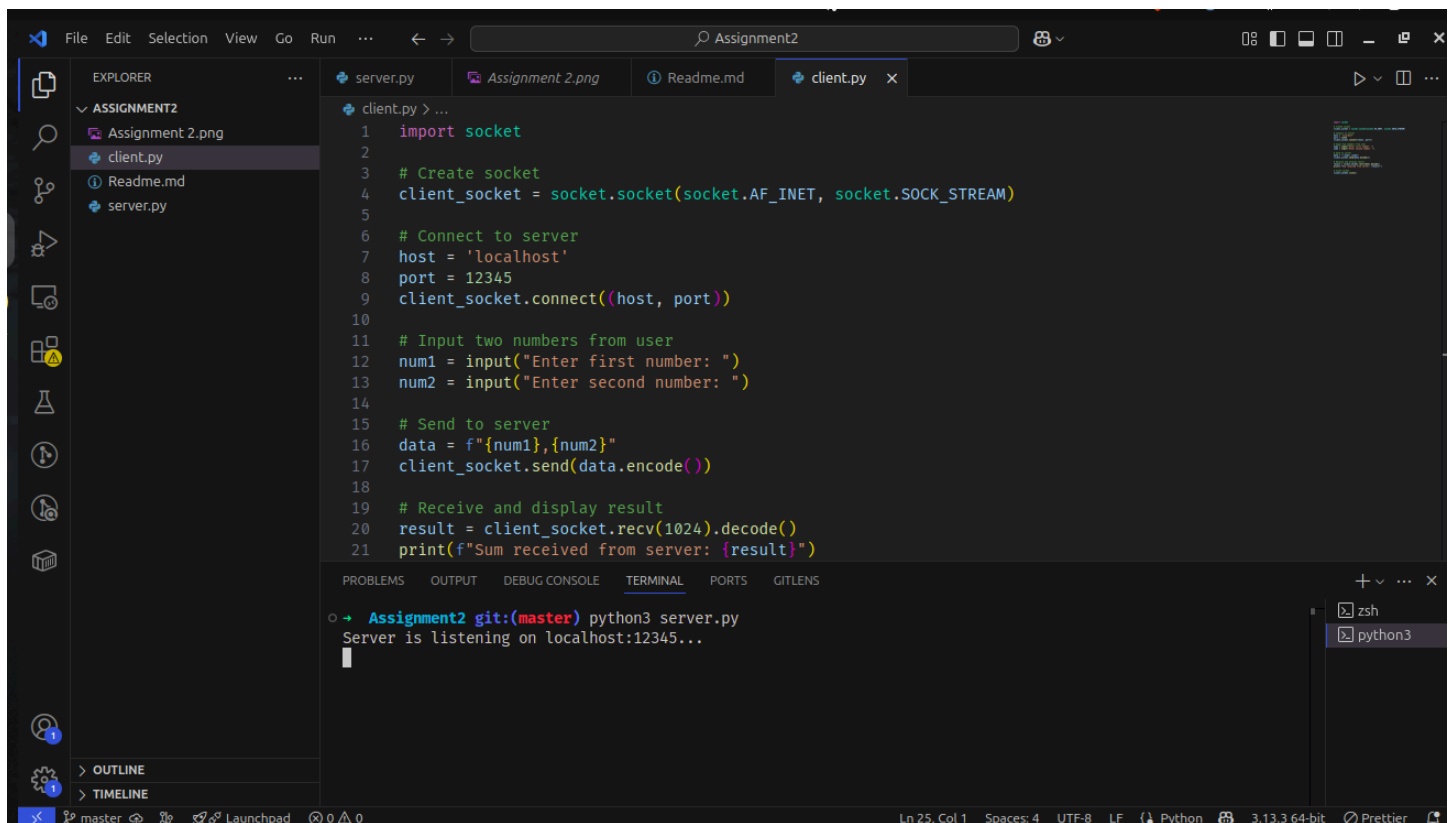
GitHub Link:  [GitHub - CodesByEtemesi/Network-Programming-Assgn2](https://github.com/CodesByEtemesi/Network-Programming-Assgn2)

Server:



```
1  import socket
2
3  # Create socket
4  server_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
5
6  # Bind to host and port
7  host = 'localhost'
8  port = 12345
9  server_socket.bind((host, port))
10 server_socket.listen(1)
11 print(f"Server is listening on {host}:{port} ... ")
12
13 # Accept connection
14 conn, addr = server_socket.accept()
15 print(f"Connected to {addr}")
16
17 # Receive numbers from client
18 data = conn.recv(1024).decode()
19 num1, num2 = map(int, data.split(','))
20
21 # Calculate sum
22 result = num1 + num2
23
24 # Send result back to client
25 conn.send(str(result).encode())
26
27 # Close connection
28 conn.close()
29
```

Server Listening:



The screenshot shows a Visual Studio Code editor with a file explorer on the left displaying a project named 'ASSIGNMENT2' containing 'Assignment 2.png', 'client.py', 'Readme.md', and 'server.py'. The main editor window shows the 'client.py' file with the following code:

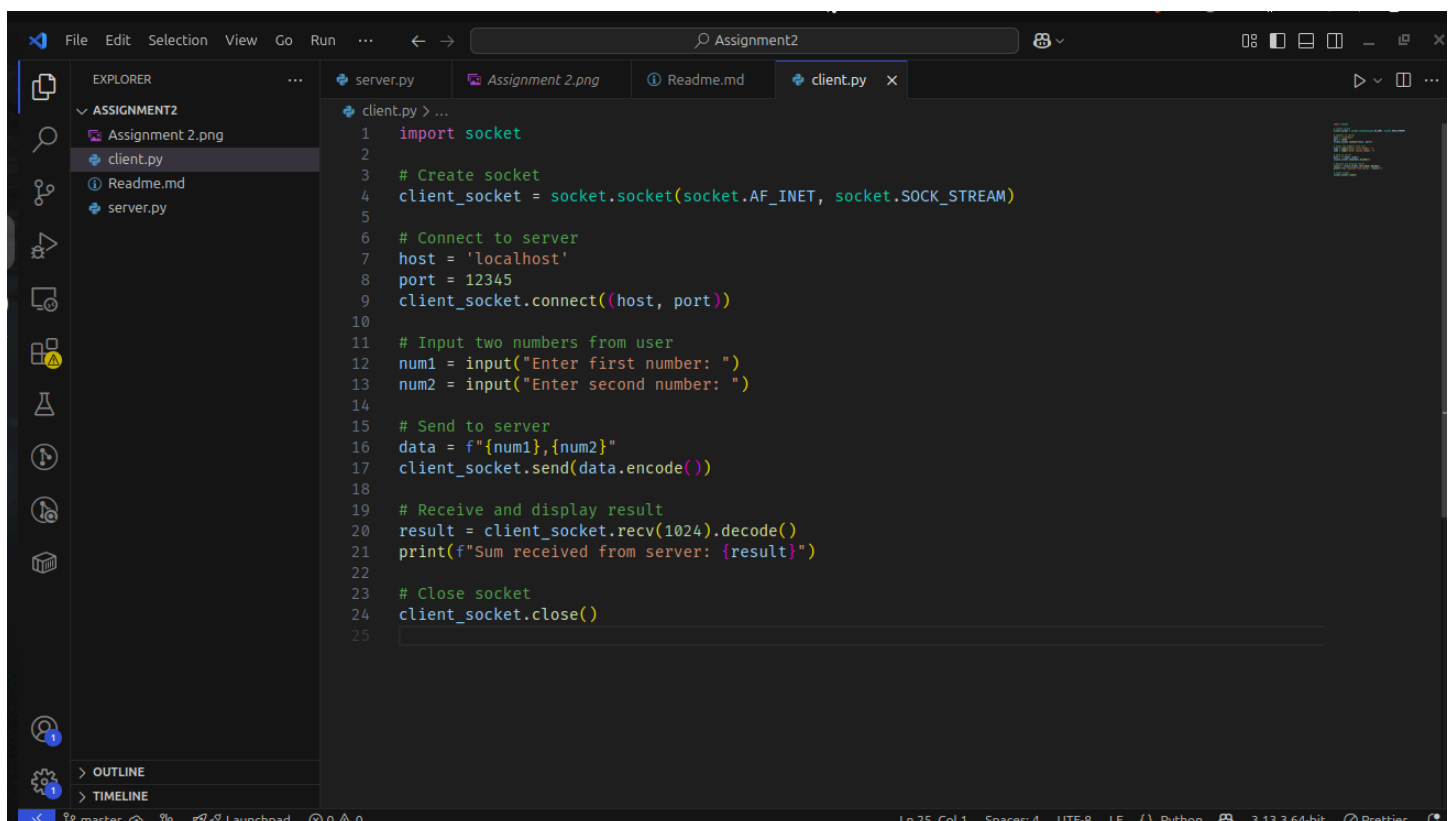
```
1 import socket
2
3 # Create socket
4 client_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
5
6 # Connect to server
7 host = 'localhost'
8 port = 12345
9 client_socket.connect((host, port))
10
11 # Input two numbers from user
12 num1 = input("Enter first number: ")
13 num2 = input("Enter second number: ")
14
15 # Send to server
16 data = f"{num1},{num2}"
17 client_socket.send(data.encode())
18
19 # Receive and display result
20 result = client_socket.recv(1024).decode()
21 print(f"Sum received from server: {result}")
```

The bottom panel shows the 'TERMINAL' tab with the following output:

```
Assignment2 git:(master) python3 server.py
Server is listening on localhost:12345...
```

The status bar at the bottom indicates the file is at 'Ln 25, Col 1' with 'Spaces: 4', 'UTF-8', 'LF' encoding, and 'Python' interpreter.

Client:



The screenshot shows the same Visual Studio Code editor with the 'client.py' file selected in the file explorer. The code in the main editor window is as follows:

```
1 import socket
2
3 # Create socket
4 client_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
5
6 # Connect to server
7 host = 'localhost'
8 port = 12345
9 client_socket.connect((host, port))
10
11 # Input two numbers from user
12 num1 = input("Enter first number: ")
13 num2 = input("Enter second number: ")
14
15 # Send to server
16 data = f"{num1},{num2}"
17 client_socket.send(data.encode())
18
19 # Receive and display result
20 result = client_socket.recv(1024).decode()
21 print(f"Sum received from server: {result}")
22
23 # Close socket
24 client_socket.close()
25
```

The status bar at the bottom shows the file is at 'Ln 25, Col 1' with 'Spaces: 4', 'UTF-8', 'LF' encoding, and 'Python' interpreter.

Client Connected:

The screenshot shows the Visual Studio Code editor with the following components:

- EXPLORER:** A project named 'ASSIGNMENT2' containing files 'Assignment 2.png', 'client.py', 'Readme.md', and 'server.py'.
- client.py:** A Python script for a client socket connection. It imports socket, creates a client socket, connects to 'localhost' on port 12345, prompts the user for two numbers, sends them to the server, and receives a response.
- TERMINAL:** Two terminal windows are open. The left window shows the output of running 'python3 server.py', which indicates the server is listening on localhost:12345 and has connected to ('127.0.0.1', 36198). The right window shows the output of running 'python3 client.py', where the user has entered '3' and '4', and the program has received a response from the server.

```
1 import socket
2
3 # Create socket
4 client_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
5
6 # Connect to server
7 host = 'localhost'
8 port = 12345
9 client_socket.connect((host, port))
10
11 # Input two numbers from user
12 num1 = input("Enter first number: ")
13 num2 = input("Enter second number: ")
14
15 # Send to server
16 data = f"{num1},{num2}"
17 client_socket.send(data.encode())
18
19 # Receive and display result
20 result = client_socket.recv(1024).decode()
21 print(f"Sum received from server: {result}")
```

Assignment2 git:(master) python3 server.py
Server is listening on localhost:12345...
Connected to ('127.0.0.1', 36198)

Assignment2 git:(master) python3 client.py
Enter first number: 3
Enter second number: 4
Sum received from server: 7

Final Output:

The screenshot shows the Visual Studio Code editor with the following components:

- EXPLORER:** A project named 'ASSIGNMENT2' containing files 'Assignment 2.png', 'client.py', 'Readme.md', and 'server.py'.
- client.py:** A Python script for a client socket connection. It imports socket, creates a client socket, connects to 'localhost' on port 12345, prompts the user for two numbers, sends them to the server, and receives a response.
- TERMINAL:** Two terminal windows are open. The left window shows the output of running 'python3 server.py', which indicates the server is listening on localhost:12345 and has connected to ('127.0.0.1', 36198). The right window shows the output of running 'python3 client.py', where the user has entered '3' and '4', and the program has received a response from the server.

```
1 import socket
2
3 # Create socket
4 client_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
5
6 # Connect to server
7 host = 'localhost'
8 port = 12345
9 client_socket.connect((host, port))
10
11 # Input two numbers from user
12 num1 = input("Enter first number: ")
13 num2 = input("Enter second number: ")
14
15 # Send to server
16 data = f"{num1},{num2}"
17 client_socket.send(data.encode())
18
19 # Receive and display result
20 result = client_socket.recv(1024).decode()
21 print(f"Sum received from server: {result}")
```

Assignment2 git:(master) python3 server.py
Server is listening on localhost:12345...
Connected to ('127.0.0.1', 36198)

Assignment2 git:(master) python3 client.py
Enter first number: 3
Enter second number: 4
Sum received from server: 7

