





The image shows a Visual Studio Code editor window with a dark theme. The top menu bar includes File, Edit, Selection, View, Go, Run, and a search icon. The search bar contains the text "Python". The left sidebar shows a file explorer with a folder named "server.py" containing three files: "client.py", "main.py", and "server.py". The "server.py" file is selected and its contents are displayed in the main editor area. The code is a Python script for a simple socket server. It imports the socket module, creates a server socket, binds it to localhost on port 12345, and listens for connections. When a connection is accepted, it prints the address and enters a loop to receive data from the client, print it, and send a response. The connection is closed after the response is sent.

```
1 import socket
2
3 # Create a socket object (AF_INET for IPv4, SOCK_STREAM for TCP)
4 server_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
5
6 # Bind the socket to a host and port
7 server_socket.bind(('localhost', 12345))
8
9 # Enable the server to accept connections (max queue of 1)
10 server_socket.listen(1)
11 print("Server is waiting for connection...")
12
13 # Accept a client connection
14 conn, addr = server_socket.accept()
15 print(f"Connected to {addr}")
16
17 while True:
18     # Receive data from the client (max 1024 bytes at a time)
19     data = conn.recv(1024).decode()
20     if not data:
21         break
22     print(f"Client says: {data}")
23
24     # Send a reply to the client
25     message = input("Server: ")
26     conn.send(message.encode())
27
28 # Close the connection
29 conn.close()
30 |
```

The status bar at the bottom shows the current line and column as "Ln 30, Col 1", the encoding as "UTF-8", and the file type as "Python".

The image shows a Python IDE with a dark theme. The interface includes a menu bar (File, Edit, Selection, View, Go, Run, ...), a toolbar with icons for file operations, and a sidebar on the left showing a project tree with files: client.py, main.py, and server.py. The main editor window displays the code for client.py, which is a client socket program. The code includes comments and uses the socket module to connect to a server on localhost:12345, send a message, and receive a reply. The status bar at the bottom indicates the current cursor position (Ln 22, Col 1) and other details like 'Spaces: 4', 'UTF-8', 'CRLF', and 'Python 3.13.5'.

```
client.py > ...
1  import socket
2
3  # Create a socket object (AF_INET for IPv4, SOCK_STREAM for TCP)
4  client_socket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
5
6  # Connect to the server on localhost and port 12345
7  client_socket.connect(('localhost', 12345))
8
9  while True:
10     # Send a message to the server
11     message = input("Client: ")
12     client_socket.send(message.encode())
13
14     # Receive a reply from the server
15     data = client_socket.recv(1024).decode()
16     if not data:
17         break
18     print(f"Server says: {data}")
19
20 # Close the connection
21 client_socket.close()
22
```

File Edit Selection View Go Run ... Python

client.py > ...  
1 import socket

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

PS D:\Python> python server.py  
PS D:\Python> python server.py  
Server is running...  
Connected with ('127.0.0.1', 60158)  
Nickname of the client is kashish  
Connected with ('127.0.0.1', 60165)  
PS D:\Python> python server.py  
Server is running...  
Connected with ('127.0.0.1', 60158)  
Nickname of the client is kashish  
PS D:\Python> python server.py  
Server is running...  
Connected with ('127.0.0.1', 60158)  
Nickname of the client is kashish  
PS D:\Python> python server.py  
Server is running...  
Connected with ('127.0.0.1', 60158)  
Nickname of the client is kashish  
Connected with ('127.0.0.1', 60165)  
Nickname of the client is ram  
[]

PS D:\Python> python client.py  
Choose your nickname: kashish  
kashish joined the chat!  
Connected to the server!  
PS D:\Python> python client.py  
Choose your nickname: kashish  
kashish joined the chat!  
PS D:\Python> python client.py  
Choose your nickname: kashish  
kashish joined the chat!  
PS D:\Python> python client.py  
Choose your nickname: kashish  
kashish joined the chat!  
PS D:\Python> python client.py  
Choose your nickname: kashish  
kashish joined the chat!  
Connected to the server!  
ram joined the chat!  
[]

ram joined the chat!  
Connected to the server!  
PS D:\Python> python client.py  
Choose your nickname: ram  
ram joined the chat!  
Connected to the server!  
PS D:\Python> python client.py  
Choose your nickname: ram  
ram joined the chat!  
PS D:\Python> python client.py  
Choose your nickname: ram  
ram joined the chat!  
PS D:\Python> python client.py  
Choose your nickname: ram  
ram joined the chat!  
Connected to the server!  
[]

python  
python  
py...  
powershell

Ln 22, Col 1 Spaces: 4 UTF-8 CRLF Python 3.13.5 Go Live