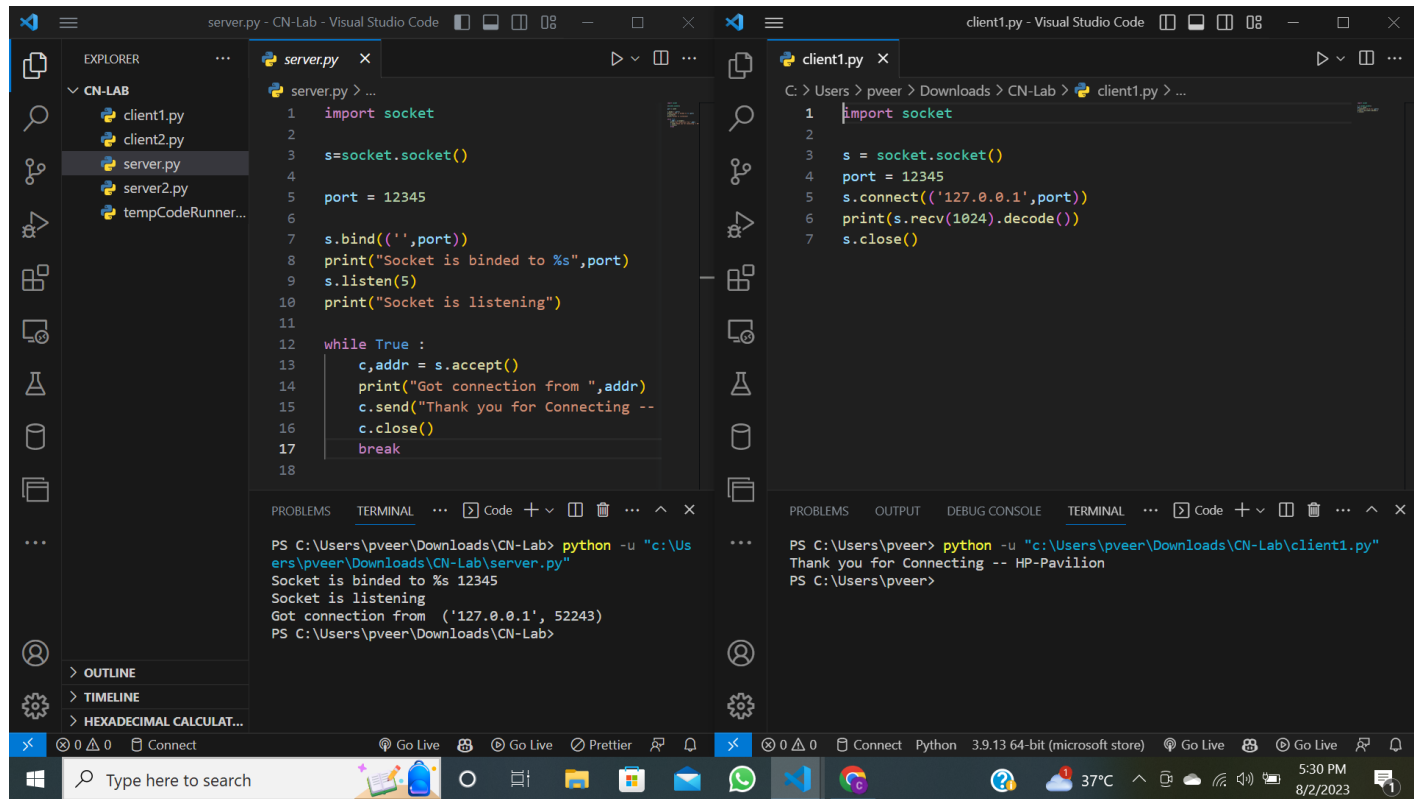
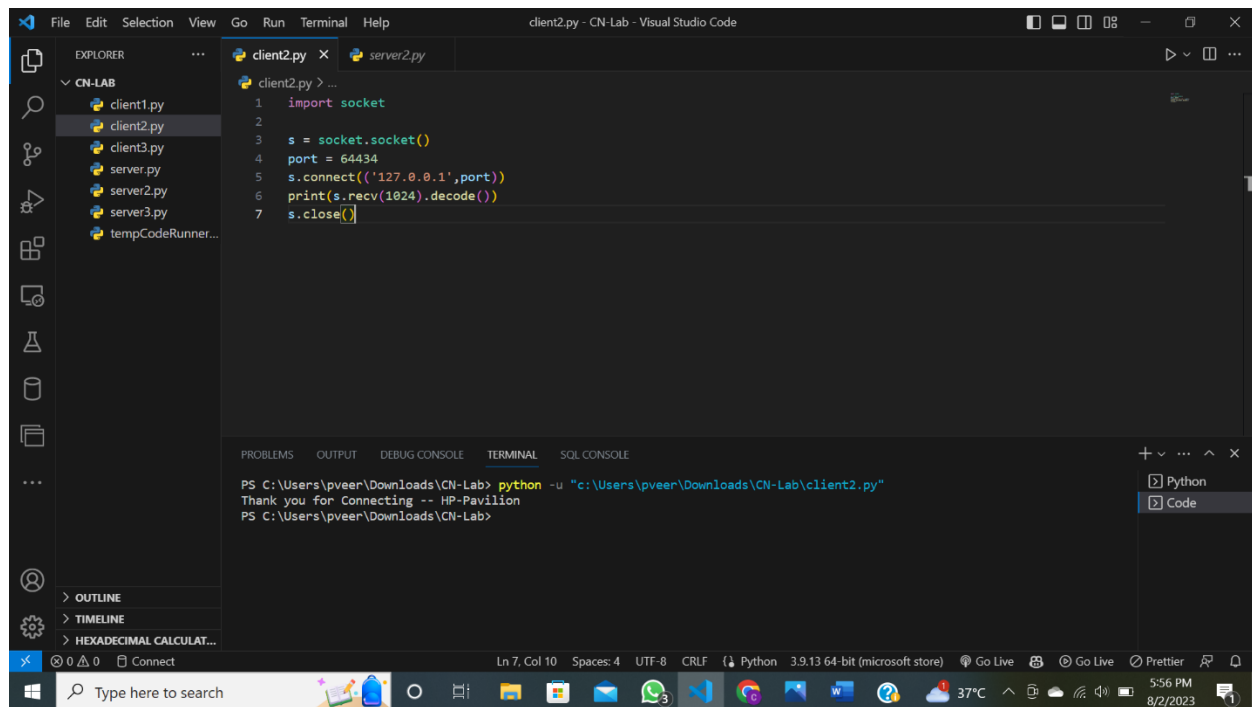


Use Python-based Socket Programming

1. Creation of Socket

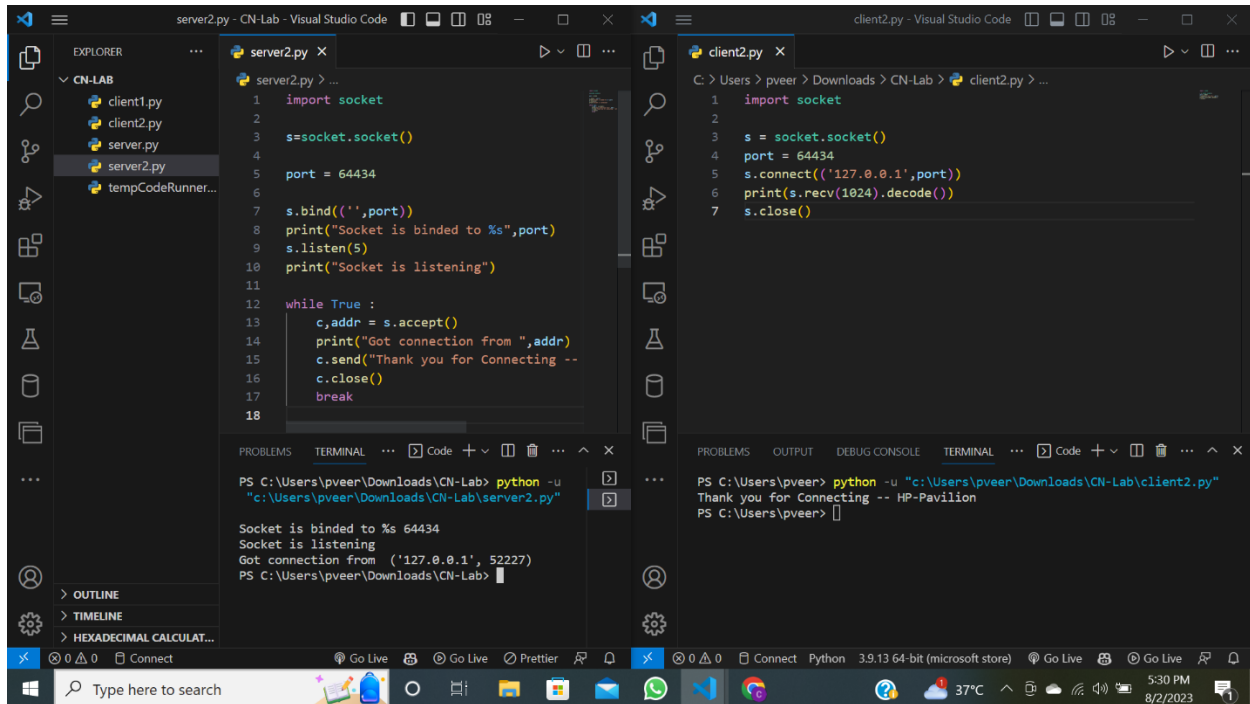


2. Connect to Any Server



3. Try Changing the port number

Port number changed from 12345 to 64434



The screenshot shows two Visual Studio Code windows. The left window, titled 'server2.py - CN-Lab - Visual Studio Code', displays the code for 'server2.py'. The code imports 'socket', creates a socket object 's', binds it to '('', port)' where 'port' is 64434, and starts a loop to accept connections. The terminal output shows the server is bound to port 64434, is listening, and receives a connection from '127.0.0.1' at port 52227. The right window, titled 'client2.py - Visual Studio Code', displays the code for 'client2.py'. The code imports 'socket', creates a socket object 's', and connects it to '127.0.0.1' at port 64434. The terminal output shows the client successfully connecting and receiving the message 'Thank you for Connecting -- HP-Pavilion'.

```
server2.py
1 import socket
2
3 s=socket.socket()
4
5 port = 64434
6
7 s.bind(('',port))
8 print("Socket is binded to %s",port)
9 s.listen(5)
10 print("Socket is listening")
11
12 while True :
13     c,addr = s.accept()
14     print("Got connection from ",addr)
15     c.send("Thank you for Connecting --")
16     c.close()
17     break
18
```

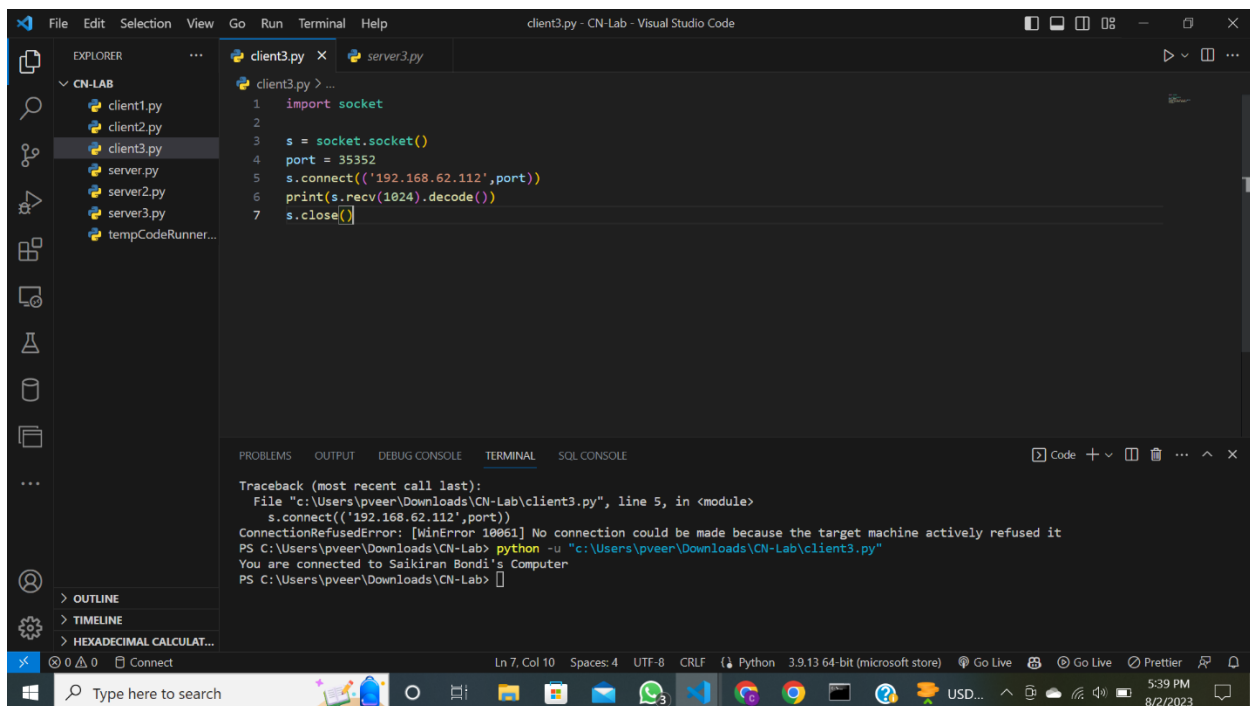
```
client2.py
1 import socket
2
3 s = socket.socket()
4 port = 64434
5 s.connect(('127.0.0.1',port))
6 print(s.recv(1024).decode())
7 s.close()
```

```
PS C:\Users\pveer\Downloads\CN-Lab> python -u "c:\Users\pveer\Downloads\CN-Lab\server2.py"
Socket is binded to %s 64434
Socket is listening
Got connection from ('127.0.0.1', 52227)
PS C:\Users\pveer\Downloads\CN-Lab>
```

```
PS C:\Users\pveer> python -u "c:\Users\pveer\Downloads\CN-Lab\client2.py"
Thank you for Connecting -- HP-Pavilion
PS C:\Users\pveer>
```

4. Try to Connect one computer to another computer by enabling the apache Server demon

Connected to friend's computer

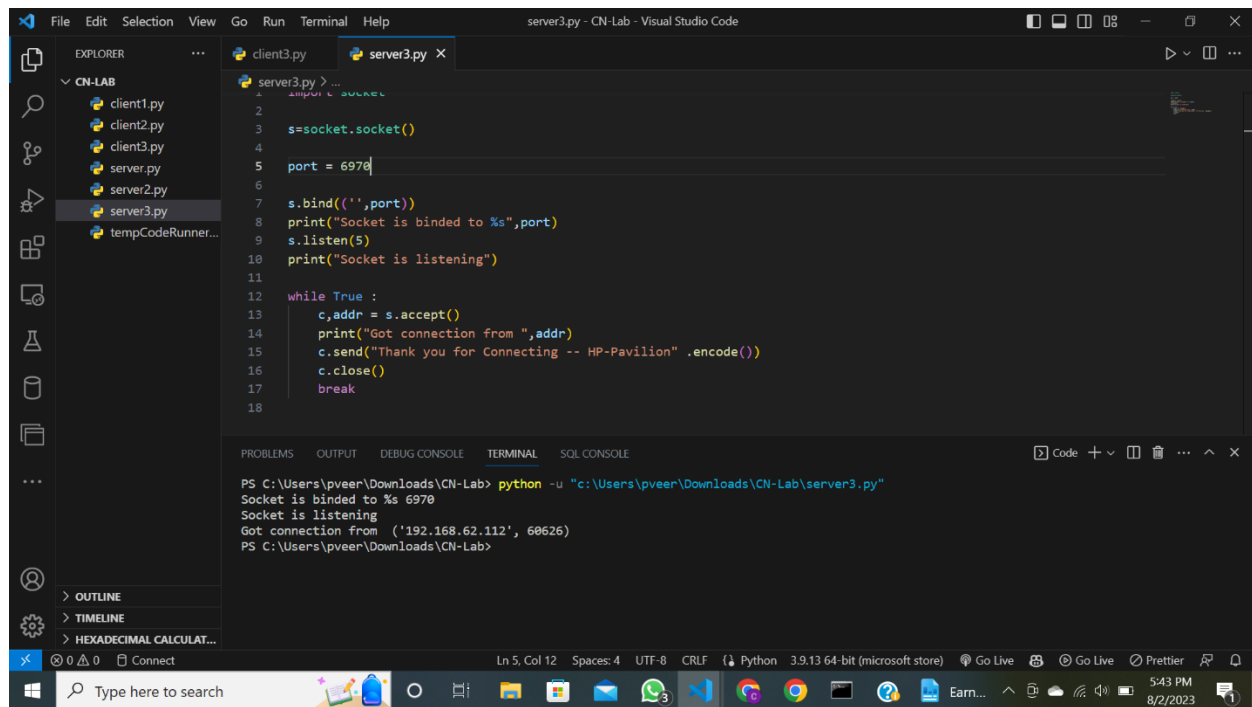


The screenshot shows a Visual Studio Code window titled 'client3.py - CN-Lab - Visual Studio Code'. The code for 'client3.py' imports 'socket', creates a socket object 's', and attempts to connect to '192.168.62.112' at port 35352. The terminal output shows a 'Traceback (most recent call last):' error, specifically a 'ConnectionRefusedError: [WinError 10061] No connection could be made because the target machine actively refused it'. The error message also includes the command used to run the file: 'PS C:\Users\pveer\Downloads\CN-Lab> python -u "c:\Users\pveer\Downloads\CN-Lab\client3.py"'.

```
client3.py
1 import socket
2
3 s = socket.socket()
4 port = 35352
5 s.connect(('192.168.62.112',port))
6 print(s.recv(1024).decode())
7 s.close()
```

```
Traceback (most recent call last):
  File "c:\Users\pveer\Downloads\CN-Lab\client3.py", line 5, in <module>
    s.connect(('192.168.62.112',port))
ConnectionRefusedError: [WinError 10061] No connection could be made because the target machine actively refused it
PS C:\Users\pveer\Downloads\CN-Lab> python -u "c:\Users\pveer\Downloads\CN-Lab\client3.py"
You are connected to Saikiran Bondi's Computer
PS C:\Users\pveer\Downloads\CN-Lab>
```

Received ip address back from friend's computer



The screenshot shows the Visual Studio Code interface with a Python script named `server3.py` open in the editor. The script is a simple socket server that listens on port 6970 and responds to incoming connections. The terminal window at the bottom shows the command `python -u "C:\Users\pveer\Downloads\CN-Lab\server3.py"` being executed, and the output of the script, which includes the port it is listening on and the IP address of the connected client.

```
server3.py > ...
1 import socket
2
3 s=socket.socket()
4
5 port = 6970
6
7 s.bind(('',port))
8 print("Socket is binded to %s",port)
9 s.listen(5)
10 print("Socket is listening")
11
12 while True :
13     c,addr = s.accept()
14     print("Got connection from ",addr)
15     c.send("Thank you for Connecting -- HP-Pavilion".encode())
16     c.close()
17     break
18
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL SQL CONSOLE

```
PS C:\Users\pveer\Downloads\CN-Lab> python -u "C:\Users\pveer\Downloads\CN-Lab\server3.py"
Socket is binded to %s 6970
Socket is listening
Got connection from ('192.168.62.112', 60626)
PS C:\Users\pveer\Downloads\CN-Lab>
```

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