19CSE312 Distributed Systems

Lab Sheet – 3

Name : Patel Rajkumar Panakjbhai

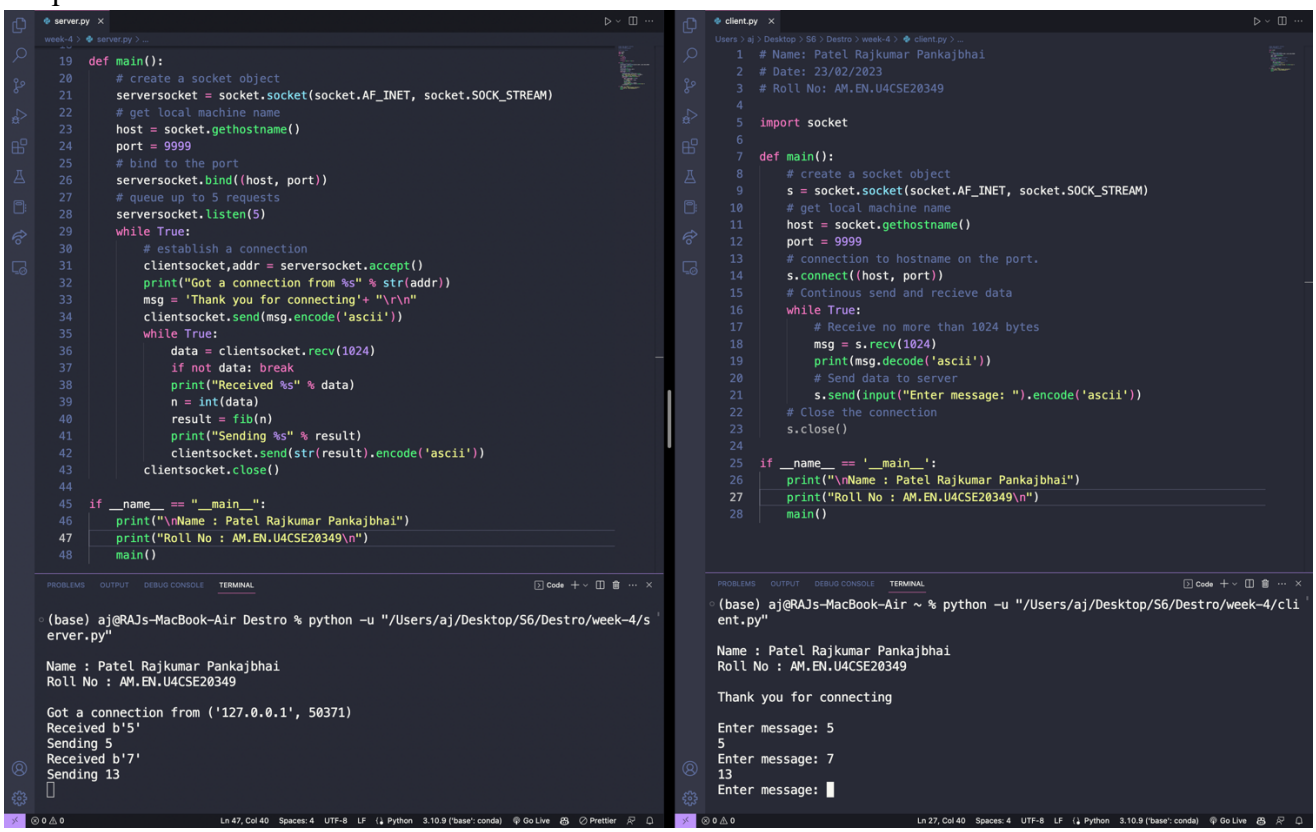
Roll No : AM.EN.USCSE20349

Question:

Implement a Fibonacci function on a remote server.

i) Call the function from client to execute the function definition on the remote machine.

Output



```python
# server.py
def main():
    # create a socket object
    serversocket = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    # get local machine name
    host = socket.gethostname()
    port = 9999
    # bind to the port
    serversocket.bind((host, port))
    # queue up to 5 requests
    serversocket.listen(5)
    while True:
        # establish a connection
        clientsocket,addr = serversocket.accept()
        print("Got a connection from %s" % str(addr))
        msg = 'Thank you for connecting'+ "\r\n"
        clientsocket.send(msg.encode('ascii'))
        while True:
            data = clientsocket.recv(1024)
            if not data: break
            print("Received %s" % data)
            n = int(data)
            result = fib(n)
            print("Sending %s" % result)
            clientsocket.send(str(result).encode('ascii'))
        clientsocket.close()

if __name__ == "__main__":
    print("\nName : Patel Rajkumar Pankajbhai")
    print("Roll No : AM.EN.U4CSE20349\n")
    main()
```

```
(base) aj@RAJs-MacBook-Air Destro % python -u "/Users/aj/Desktop/S6/Destro/week-4/server.py"

Name : Patel Rajkumar Pankajbhai
Roll No : AM.EN.U4CSE20349

Got a connection from ('127.0.0.1', 50371)
Received b'5'
Sending 5
Received b'7'
Sending 13
```

```python
# client.py
# Name: Patel Rajkumar Pankajbhai
# Date: 23/02/2023
# Roll No: AM.EN.U4CSE20349

import socket

def main():
    # create a socket object
    s = socket.socket(socket.AF_INET, socket.SOCK_STREAM)
    # get local machine name
    host = socket.gethostname()
    port = 9999
    # connection to hostname on the port.
    s.connect((host, port))
    # Continous send and recieve data
    while True:
        # Receive no more than 1024 bytes
        msg = s.recv(1024)
        print(msg.decode('ascii'))
        # Send data to server
        s.send(input("Enter message: ").encode('ascii'))
    # Close the connection
    s.close()

if __name__ == '__main__':
    print("\nName : Patel Rajkumar Pankajbhai")
    print("Roll No : AM.EN.U4CSE20349\n")
    main()
```

```
(base) aj@RAJs-MacBook-Air ~ % python -u "/Users/aj/Desktop/S6/Destro/week-4/client.py"

Name : Patel Rajkumar Pankajbhai
Roll No : AM.EN.U4CSE20349

Thank you for connecting

Enter message: 5
5
Enter message: 7
13
Enter message:
```

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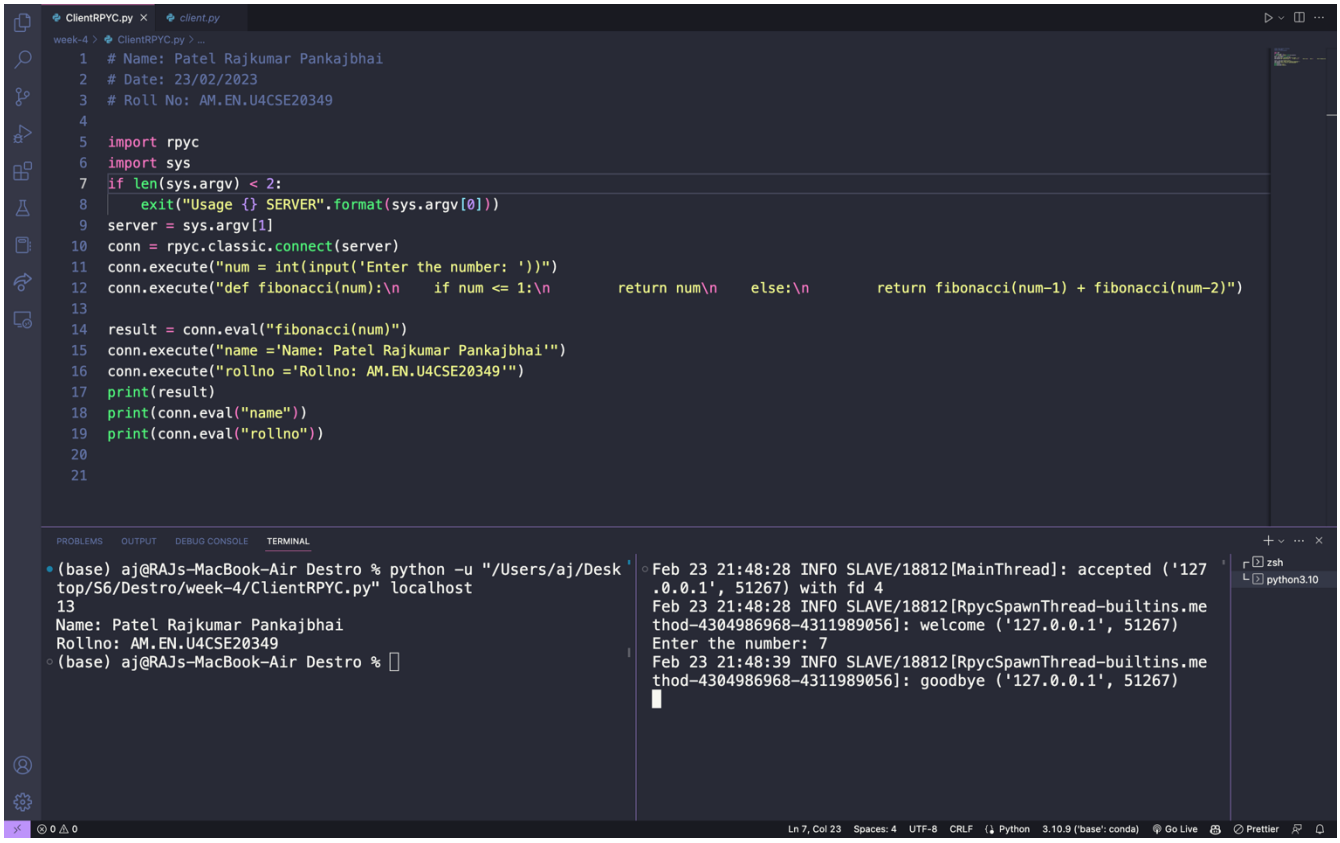
ii) You may try using call ***execute*** on the **connection** object also.

In both parts add printf statement to print your name and roll number.

Output :



Submission:

a) The **client** and **server** source files.

b) Snapshot of the result. Capture the **entire terminal** window in the screenshot. The screenshots can be put in one document.

Please avoid **zip, tar, tar.gz** etc