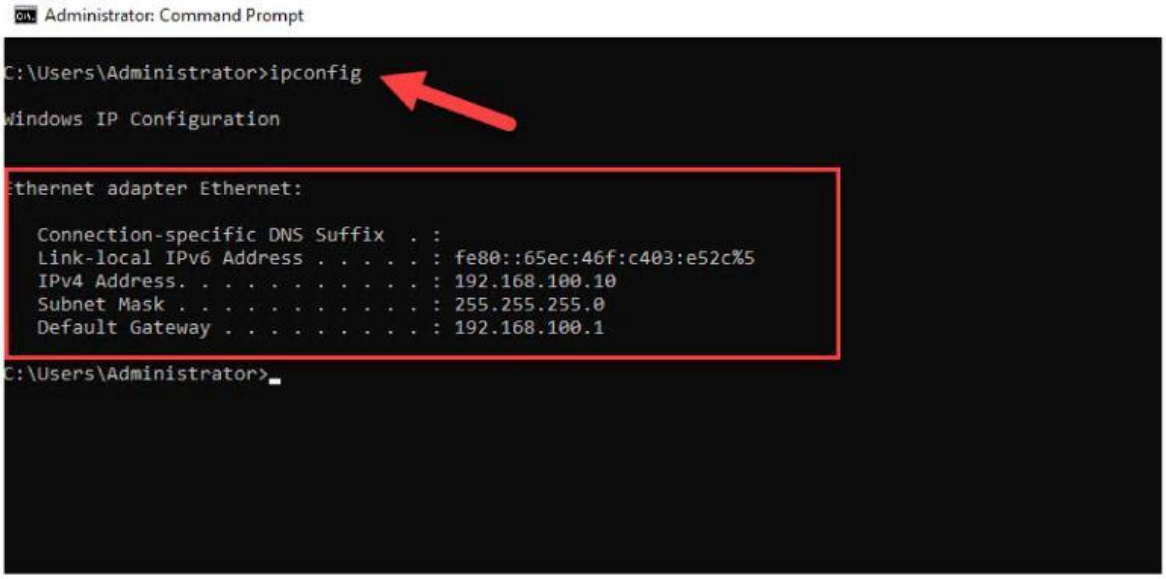
Socket Programming

This command is used on the server PC:



LIVEWORKSHEETS

Q1) Complete the missing chunks in the code in red dotted line:

chatServer.py File

```
import socket    # Import the socket library used for socket programming in python
def main():
   HOST = '.....'  # Host: Client IP address (0.0.0.0 is used for listening to any client)
   PORT =5555     # Port: port number (You can choose a number from  1024 – 65535)

# Create a socket for the client  (socket.AF_INET: socket will be used for communication using IPv4 addresses
# and protocols) (socket.SOCK_STREAM: Uses the TCP protocol)
   with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:
      s.bind(( .....)) # Bind the TCP socket to an IP  address and Port number
      s.listen()  # The server is ready to accept incoming connection requests
      while True:
         conn, addr = s.accept() # Accepts an incoming connection request from a TCP client
                                                  #conn variable:  connection to the client
                                                  # addr variable: address of the client
         print('Connected by', addr)  #Print the address of the client connected to the server
         with conn:
            while True:
               data = conn.recv(1024)  #  Receive data from server
               if not data:
                  break
               print('Received:', data.decode())  # Print the data received (Decode from byte data type to String)
               conn.sendall(data)                  #Send the data back to the client
if __name__ == '__main__':
   main()
```

LIVEWORKSHEETS

Q2) Complete the missing chunks in the code in red dotted line:

chatClient.py File

```
import socket    # Import the socket library used for socket programming in python

def main():

   HOST = = '.....'  # Host: Server IP address  (use the command prompt to get the server IP
address)

   PORT = 5555     # Port: port number (same as the server)


# Create a socket for the client  (socket.AF_INET: socket will be used for communication using IPv4 addresses
# and protocols) (socket.SOCK_STREAM: Uses the TCP protocol)

   with socket.socket(socket.AF_INET, socket.SOCK_STREAM) as s:

      s.connect((..... )) # Connect the TCP socket to the server's IP  address and Port number

      while True:

         message = input('Message: ')   # Promoting the user to enter a message in the command prompt

         s.sendall(message.encode())   # Send data to the server (Encode from String data type to byte)

         if message == 'quit':              # if the client type the messages quit, the code will stop running

            break

         data = s.recv(1024)                    # Receive data from the server

         print('Received:', data.decode())     # Print the data received (Decode from byte data type to String)


if __name__ == '__main__':

   main()
```

LIVEWORKSHEETS