Class Exercise:

Socket v1

Create a class named **ChatClient** that represents a simple chat client using sockets. This class should have the following functionality:

1. The **ChatClient** class should have an **\_\_init\_\_** method that takes two parameters: host and port. These parameters represent the host and port number of the server that the client will connect to.
2. The **ChatClient** class should have a method named connect that establishes a connection to the server using the provided host and port.
3. The **ChatClient** class should have a method named **send\_message** that takes a message as a parameter and sends it to the server.
4. The **ChatClient** class should have a method named **receive\_message** that receives a message from the server and returns it.
5. The **ChatClient** class should have a method named close that closes the connection to the server.

Your task is to implement the **ChatClient** class with the described functionality.

Instructions:

import socket

class ChatClient:

    def \_\_init\_\_(self, host, port):

# Your code here

    def connect(self):

# Your code here

    def send\_message(self, message):

# Your code here

    def receive\_message(self):

# Your code here

    def close(self):

# Your code here

# Example usage

client = ChatClient('localhost', 5000)

client.connect()

message = input("Enter a message to send: ")

client.send\_message(message)

received\_message = client.receive\_message()

print("Received message:", received\_message)

client.close()

Expected output:

Connected to server.

Enter a message to send: Hello server!

Received message: Welcome to the chat!

Connection closed.