

# Computer Networks

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Link to the GitHub: [https://github.com/AnnaTestova/  
annatestova.github.io.git](https://github.com/AnnaTestova/annatestova.github.io.git)

## How to use my Programm:

I'm running my code through terminal on mac and I don't have any extensions download.

This is how I'm starting my Server and how it's running:

```
annatestova@MacBook-Pro-Anna CompNet % python3 server.py
[SERVER STARTED] Listening on port 5555...
[NEW CONNECTION] ('127.0.0.1', 50864)
A joined the chat
[NEW CONNECTION] ('127.0.0.1', 50865)
B joined the chat
[DISCONNECTED] ('127.0.0.1', 50864)
[DISCONNECTED] ('127.0.0.1', 50865)
```

Starting Client and running commands:

```
annatestova@MacBook-Pro-Anna CompNet % python3 client.py
You're now connected
Enter your nickname: A

    You joined the chat
    Available functions:
    /contacts - to get the list of online users
    quit - to leave the chat
    /private nickname message - to send a private message to a certain person
    /sendfile path/to/file.ext - to send the file/photo

B joined the chat
Hi,A!
B: Hi,B!
/contacts
[Server] Online users: A, B
[Private from B]: How are you?
exit
Disconnecting...
```

## Report:

This project is a real-time messaging app build in Python using client-server architecture.

The application features group chat, private messaging between users(/private), contact management(/contacts), chat history saved on a server as a text file and file/photo sending option.

The server uses socket and threading Python modules that handles multiple clients simultaneously. So each client registers with a nickname that is used for messaging

identification. Simple messages are broadcasted to all users that are connected to the server, while private messages are sent directly to the specific user. The server also maintains the list of active users and handles client connection and disconnection flawlessly.

It was my first experience creating a messaging application, and it turned out nice functional prototype that showcases main networking and communication concepts in Python.