Experiment - 1

CLIENT-SERVER COMMUNICATION USING SOCKET PROGRAMMING (TCP)

AUTHOR: EMIL TITUS

(Roll #24)

Compiling the Program

To compile the program:

`javac Server.java`

`javac Client.java`

Running the Program

In a terminal, run the Server program. While the Server is running, run the Client program in another terminal with the correct socket address.

In the first terminal:

`java Server <port>`

In the second terminal, run:

`java Client <host address> <port>`

The client request and server response have to be typed by the user into the terminal when prompted (i.e., when seeing ">>").

The 'Exit' request from the client is used to terminate the connection. The server has to confirm this to complete the termination process. Only the client can initiate this process.

Screenshots

```
Windows PowerShell        X    +   v

PS D:\emilt> java Server 5000

 .d8888b.
d88P   Y88b
Y88b.
 "Y888b.      .d88b.   888d888 888   888  .d88b.   888d888
    "Y88b. d8P  Y8b 888P"    888   888 d8P  Y8b 888P"
      "888 88888888 888      Y88  88P 88888888 888
Y88b  d88P Y8b.     888       Y8bd8P  Y8b.     888
 "Y8888P"   "Y8888  888        Y88P    "Y8888  888

[18:06:38]  Created server socket successfully. Listening on port 5000
[18:07:01]  Established connection with client @ 127.0.0.1:55831

[18:07:07]  Client Request: Hi
 >> Hello
[18:07:49]  Server Response: Hello

[18:08:05]  Client Request: Exit

Client is waiting for exit confirmation from server...
 >> Exit
[18:08:14]  Server Response: Exit

Server acknowledges termination request. Server exiting.
[18:08:14]  Connection terminated.
```

```
                                                —   □   X

PS D:\emilt> java Client localhost 5000

 .d8888b.  888 d8b                    888
d88P  Y88b 888 Y8P                    888
888    888 888                        888
888        888 888  .d88b.  88888b.   888888
888        888 888 d8P  Y8b 888 "88b 888
888    888 888 888 88888888 888   888 888
Y88b  d88P 888 888 Y8b.     888   888 Y88b.
 "Y8888P"  888 888  "Y8888  888   888  "Y888

[18:07:02]  Connected to server @ localhost:5000. Using local port 55831.

 >> Hi
[18:07:07]  Client Request: Hi
[18:07:49]  Server Response: Hello

 >> Exit
[18:08:05]  Client Request: Exit

Waiting for exit confirmation from server...

[18:08:14]  Server Response: Exit

Server confirmation received. Client exiting.
[18:08:14]  Connection terminated.
```