

CSE320 Assignment5

Review Document

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The utmost goal for the assignment was to understand the fundamentals of socket programming and implement the server/client interaction in the C programming language using methods such as `fork()`, `bind()`, `socket()`, `listen()` etc. I started off by recognizing the output text of the given server/client files. I then changed the output text as instructed. Then I modified the server side of the code so that it doesn't automatically give its input to the client's output, and rather make it print it on the server side. Then I added some loops so that the server also took some input which was then printed to the client output. Another thing I added was that both client and server could enter 'exit' or more than 50 characters for the connection to shut down. While doing this, I realized that the server shut-down process takes some time. To determine this, I had to change the error message of the `bind()` function.

Things that I've learned:

- 'extern' keyword creates a global function/variable for the program to use within the same directory.
- Inter-computer connections are just some redirection of file descriptors.
Connecting to a server/other computer just means to read/write from/to it.
- It takes time for the compiler to remove the used address information when the socket connection is terminated
- The knowledge I've obtained through this assignment could be used for simple networking among other computers.

Some troubles I've faces:

- Understanding the code itself from the beginning
- Figuring out why there was a cause for address already used error when immediately trying to restart the server

Code execution results:

CLIENT:

```
lient.c
hkwak60@gwaghojun-ui-MacBookPro assignment5 % ./client
CSE320:socket successfully created
CSE320:connected to the server
CSE320:send a message : Hello
What is your name?
CSE320:received a message : Hello
CSE320:send a message : CSE320:received a message : This is server
CSE320:send a message : This is Hojun
CSE320:received a message : How about you?
CSE320:send a message : Good to see you
CSE320:received a message : Good to see you too
CSE320:send a message : Good
CSE320:received a message : Any interesting thing to share?
CSE320:send a message : Nothing
Bye
CSE320:received a message : Okay
CSE320:send a message : CSE320:received a message : Bye
CSE320:send a message : exit
CSE320:received a message: exit
CSE320:exit client
hkwak60@gwaghojun-ui-MacBookPro assignment5 %
```

SERVER:

```
hkwak60@gwaghojun-ui-MacBookPro assignment5 % ./server
CSE320:socket successfully created
CSE320:socket successfully binded
CSE320:server listening
CSE320:server accept the client
CSE320:received a message: Hello
CSE320:send a message : Hello
CSE320:received a message: What is your name?
CSE320:send a message : This is server
How about you?
CSE320:received a message: This is Hojun
CSE320:send a message : CSE320:received a message: Good to see you
CSE320:send a message : Good to see you too
Any interesting thing to share?
CSE320:received a message: Good
CSE320:send a message : CSE320:received a message: Nothing
CSE320:send a message : Okay
CSE320:received a message: Bye
CSE320:send a message : Bye
CSE320:received a message:exit
CSE320: exit server
hkwak60@gwaghojun-ui-MacBookPro assignment5 %
```