

One-page report about using sockets with C:

(A) what you did to get the program installed and running:

I created two c programs, server.c and client.c, using the given code from the website(http://www.tutorialspoint.com/unix_sockets/socket_server_example.htm). After, i used GCC and compiled the two program into executables.

```
shsul14@teaching ~/COMP307/COMP307_A5 $ gcc -o server server.c
server.c: In function 'main':
server.c:54:8: warning: implicit declaration of function 'read' [-Wimplicit-function-declaration]
    n = read( newsockfd,buffer,255 );
    ^
server.c:64:8: warning: implicit declaration of function 'write' [-Wimplicit-function-declaration]
    n = write(newsockfd,"I got your message",18);
    ^
shsul14@teaching ~/COMP307/COMP307_A5 $ gcc -o client client.c
client.c: In function 'main':
client.c:58:8: warning: implicit declaration of function 'write' [-Wimplicit-function-declaration]
    n = write(sockfd, buffer, strlen(buffer));
    ^
client.c:67:8: warning: implicit declaration of function 'read' [-Wimplicit-function-declaration]
    n = read(sockfd, buffer, 255);
    ^
shsul14@teaching ~/COMP307/COMP307_A5 $
```

Then i ran the server by typing in the command line './server' which leads the program starts to listen what the client side want to say.

For the client side, the usage of program is ./client hostname port, since i am running on the same machine, i can write localhost as the hostname, and for the port, i entered '5001', an available port.

(B) a description of the output (what did the program's do):

The server program prompted 'please enter the message: ', and then on the client side, i enter 'hi' to send the message to the server side, then the server sees the message and prompt "here is the message: hi", in the end, the client side prompts " i got your message" after knowing server side received the message.

```
shsul14@teaching ~/COMP307/COMP307_A5 $ ./server
Here is the message: hi
shsul14@teaching ~/COMP307/COMP307_A5 $
```

teaching.cs.mcgill.ca - PuTTY

```
login as: shsul14
shsul14@mimi.cs.mcgill.ca's password:
Welcome to Ubuntu 16.04.1 LTS (GNU/Linux 4.4.0-38-generic x86_64)

 * Documentation:  https://help.ubuntu.com
 * Management:    https://landscape.canonical.com
 * Support:       https://ubuntu.com/advantage

0 packages can be updated.
0 updates are security updates.

Last login: Fri Oct 21 16:32:15 2016 from 142.157.164.31
shsul14@teaching ~ $ cd COMP307
shsul14@teaching ~/COMP307 $ cd COMP307_A5/
shsul14@teaching ~/COMP307/COMP307_A5 $ ./client localhost 5001
Please enter the message: hi
I got your message
shsul14@teaching ~/COMP307/COMP307_A5 $
```

(C) what difficulties did you have (for example, maybe you could not get it to run—if so, why):

It turns out to be fairly simple after I solved my problem of not knowing the correct input for the command-line. At first I was worried about not being able to find an available port to use, and the reason of it could possibly be because of the port I am trying to open is being already used by another application.