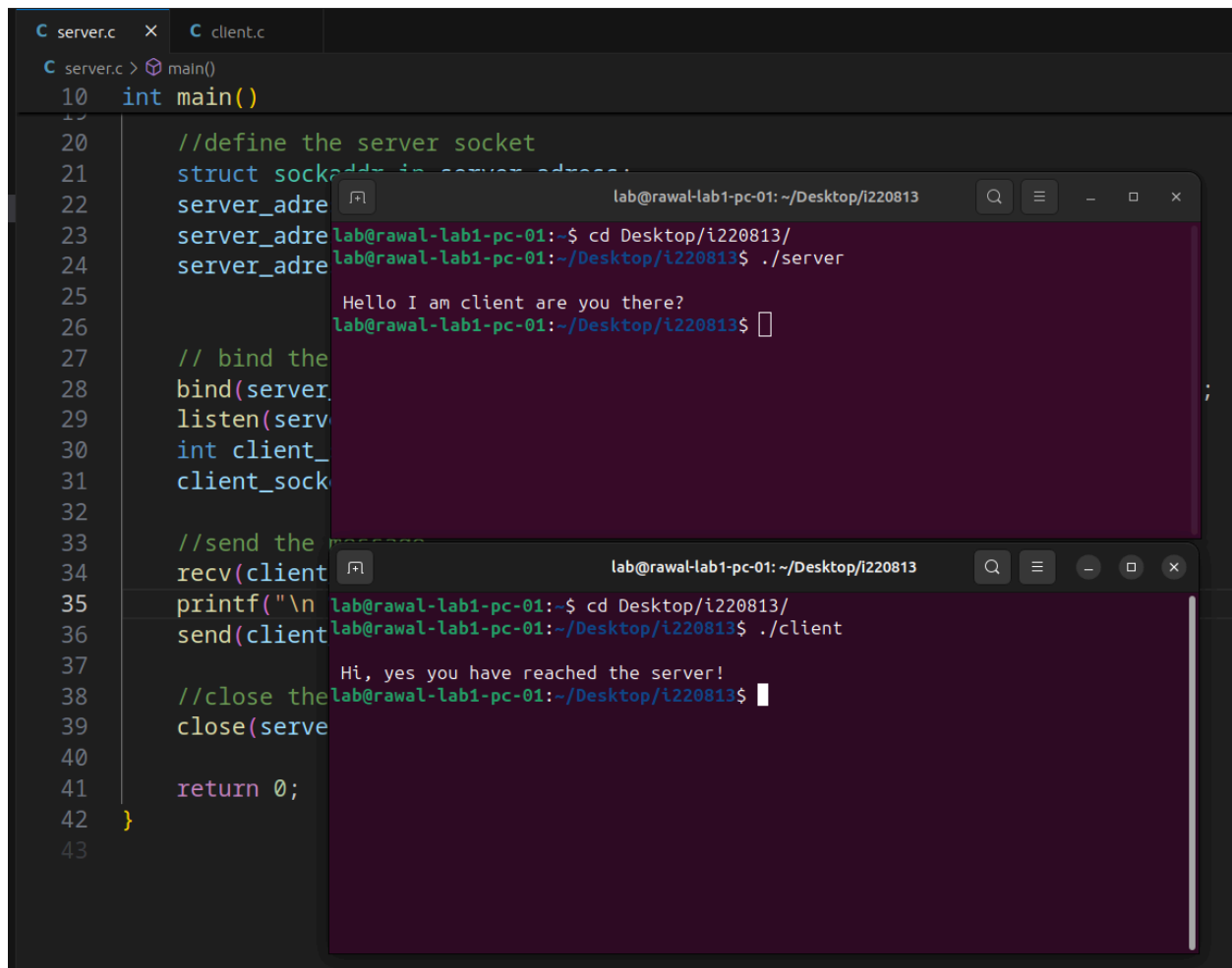


Computer Networks Lab 1

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22I-0813

Manual Output:



The image shows a C code editor with two files: `server.c` and `client.c`. The `server.c` file is open, showing the `main()` function. The code defines a server socket, binds it to a port, and listens for incoming connections. It then receives a message from the client and prints it. The `client.c` file is also open, showing the `main()` function. The code defines a client socket, connects it to the server, and sends a message. The terminal output shows the execution of the server and client programs, with the server receiving the message "Hello I am client are you there?" and the client receiving the response "Hi, yes you have reached the server!".

```
server.c > main()
10 int main()
11
20 //define the server socket
21 struct sockaddr_in server_address;
22 server_address.sin_family = AF_INET;
23 server_address.sin_port = htons(8080);
24 server_address.sin_addr.s_addr = INADDR_ANY;
25
26 // bind the server socket to the port
27 bind(server_address, sizeof(server_address));
28
29 listen(server_address, 5);
30
31 int client_socket;
32
33 //send the message
34 recv(client_socket, buffer, sizeof(buffer), 0);
35 printf("\nReceived message: %s", buffer);
36 send(client_socket, "Hi, yes you have reached the server!",
37       sizeof("Hi, yes you have reached the server!"), 0);
38 //close the client socket
39 close(client_socket);
40
41 return 0;
42 }
43
```

lab@rawal-lab1-pc-01: ~/Desktop/i220813

lab@rawal-lab1-pc-01:~\$ cd Desktop/i220813/

lab@rawal-lab1-pc-01:~/Desktop/i220813\$./server

Hello I am client are you there?

lab@rawal-lab1-pc-01:~/Desktop/i220813\$

lab@rawal-lab1-pc-01:~/Desktop/i220813

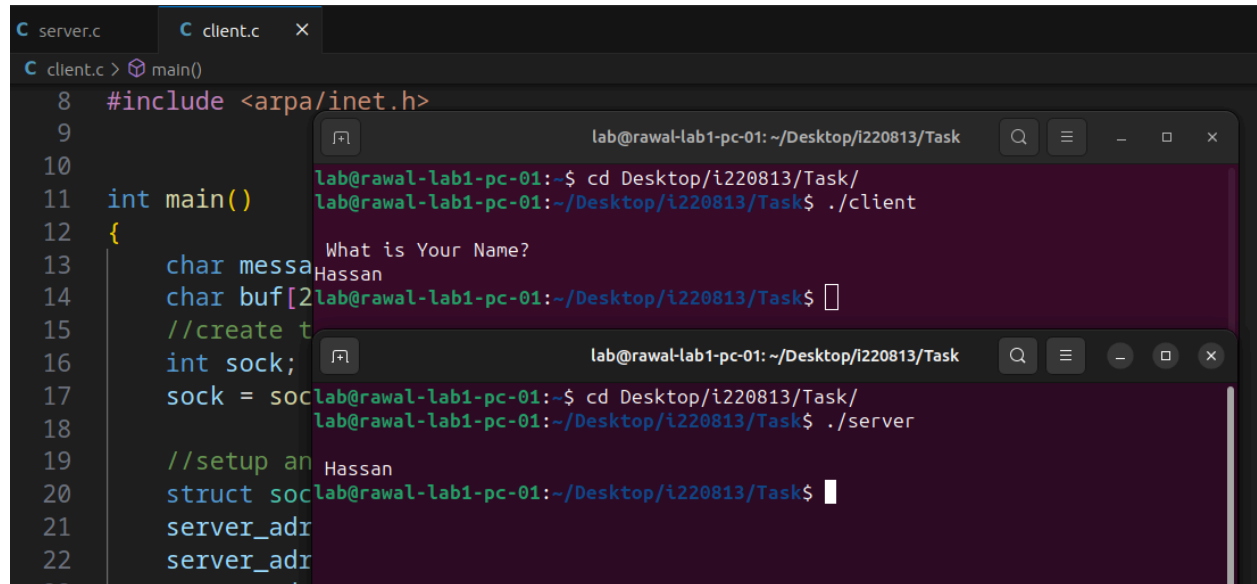
lab@rawal-lab1-pc-01:~\$ cd Desktop/i220813/

lab@rawal-lab1-pc-01:~/Desktop/i220813\$./client

Hi, yes you have reached the server!

lab@rawal-lab1-pc-01:~/Desktop/i220813\$

Task Output:



The image shows a code editor with two tabs: 'server.c' and 'client.c'. The 'client.c' tab is active, showing the following code:

```
8 #include <arpa/inet.h>
9
10
11 int main()
12 {
13     char message[1024];
14     char buf[2048];
15     //create socket
16     int sock;
17     sock = socket(AF_INET, SOCK_STREAM, 0);
18
19     //setup server address
20     struct sockaddr_in server_addr;
21     server_addr.sin_family = AF_INET;
22     server_addr.sin_port = htons(8080);
23     inet_pton(AF_INET, "127.0.0.1", &server_addr.sin_addr);
```

Two terminal windows are open in the background. The top terminal shows the execution of the client program:

```
lab@rawal-lab1-pc-01: ~/Desktop/i220813/Task
lab@rawal-lab1-pc-01:~$ cd Desktop/i220813/Task/
lab@rawal-lab1-pc-01:~/Desktop/i220813/Task$ ./client
What is Your Name?
Hassan
lab@rawal-lab1-pc-01:~/Desktop/i220813/Task$
```

The bottom terminal shows the execution of the server program:

```
lab@rawal-lab1-pc-01: ~/Desktop/i220813/Task
lab@rawal-lab1-pc-01:~$ cd Desktop/i220813/Task/
lab@rawal-lab1-pc-01:~/Desktop/i220813/Task$ ./server
Hassan
lab@rawal-lab1-pc-01:~/Desktop/i220813/Task$
```