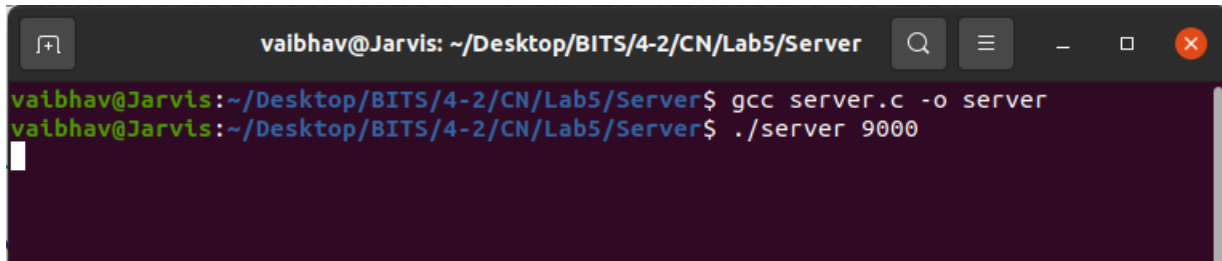


Computer Networks Lab 5

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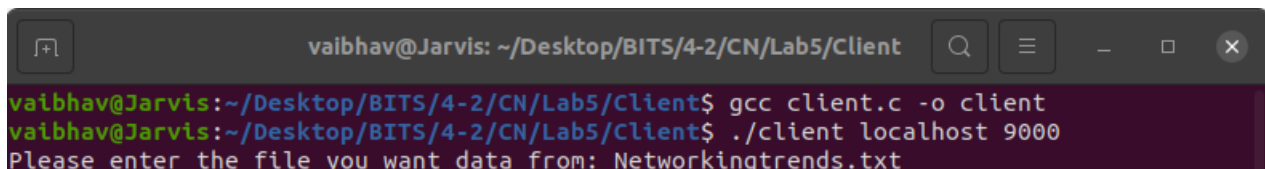
The server will accept its port number as the input parameter. (5 marks)

A terminal window titled 'vaibhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab5/Server'. It shows the compilation of 'server.c' into 'server' using 'gcc' and the execution of 'server' with '9000' as an argument.

```
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Server$ gcc server.c -o server
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Server$ ./server 9000
```

We can see that the port number is taken as the input parameter here.

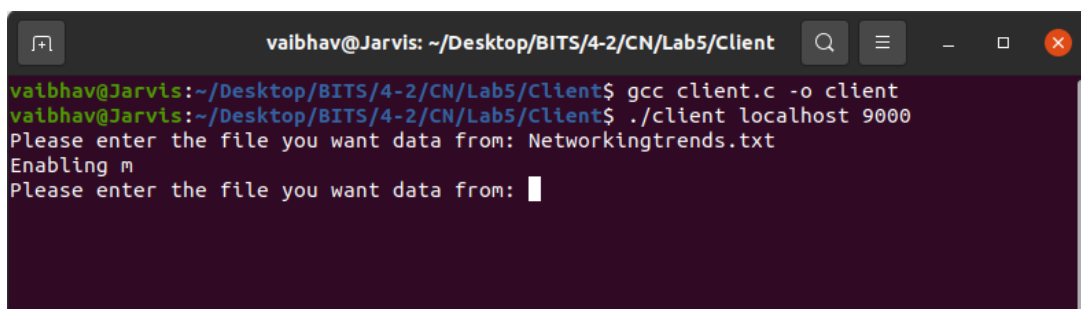
The client sends a query to server requesting data from <filename> to the server. The client will accept server's IP address, server' port number, and the requested <filename> as input parameters. (5 marks)

A terminal window titled 'vaibhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab5/Client'. It shows the compilation of 'client.c' into 'client' using 'gcc' and the execution of 'client' with 'localhost 9000' as arguments. It then prompts for a filename, with 'Networkingtrends.txt' entered.

```
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Client$ gcc client.c -o client
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Client$ ./client localhost 9000
Please enter the file you want data from: Networkingtrends.txt
```

Here we can see that the port number and the IP address is taken as the Command Line argument and the filename is taken as the input from STDIN.

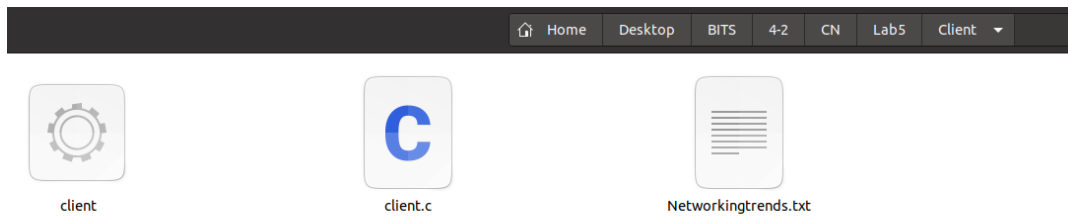
Output: The server parses the query and returns the first 10 bytes of the file <filename>. (5 marks)

A terminal window titled 'vaibhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab5/Client'. It shows the same compilation and execution as the previous screenshot. After entering the filename, it displays 'Enabling m' and then prompts for the file again, with a cursor visible.

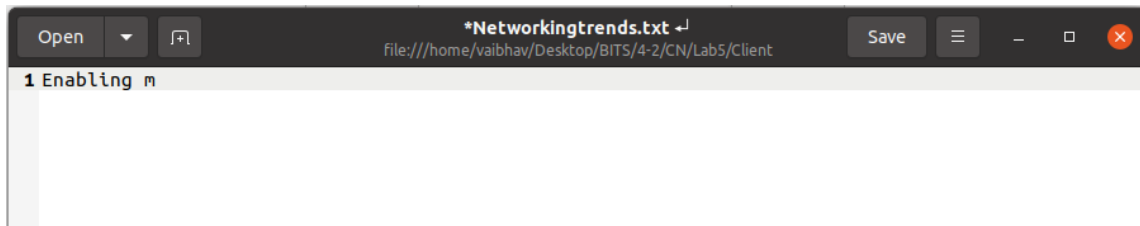
```
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Client$ gcc client.c -o client
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Client$ ./client localhost 9000
Please enter the file you want data from: Networkingtrends.txt
Enabling m
Please enter the file you want data from: 
```

Here we can see that the server parses the query and return the first 10 bytes of the input file.

On receiving the data, the client creates the file <filename> and stores the data. (5 marks).

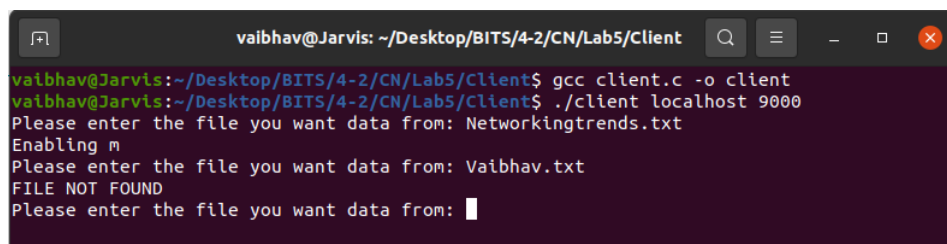


We can see that the file with the input name is created in the client directory.

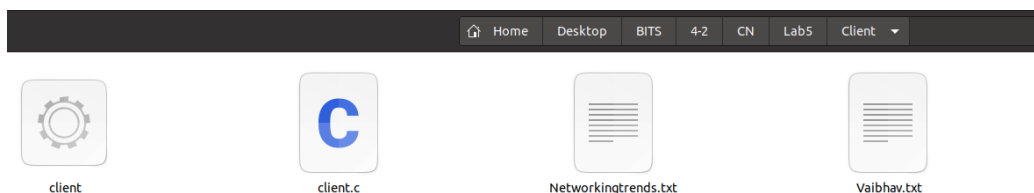


We can see that the first 10 bytes of the file are stored in the new file created in the client directory.

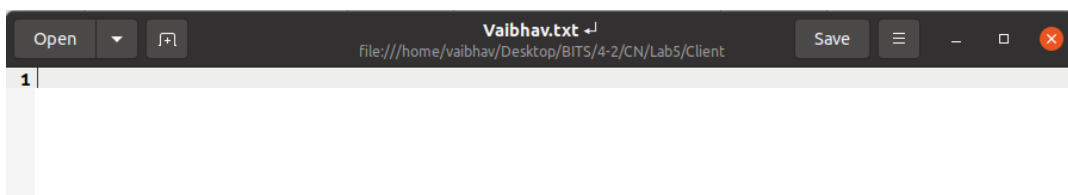
If the requested <filename> file is missing, the server sends an empty file to the client. (2 marks)



We can see that the Vaibhav.txt does not exist in the server directory. I have output "FILE NOT FOUND" and have also created an empty file with the same name in the client directory.

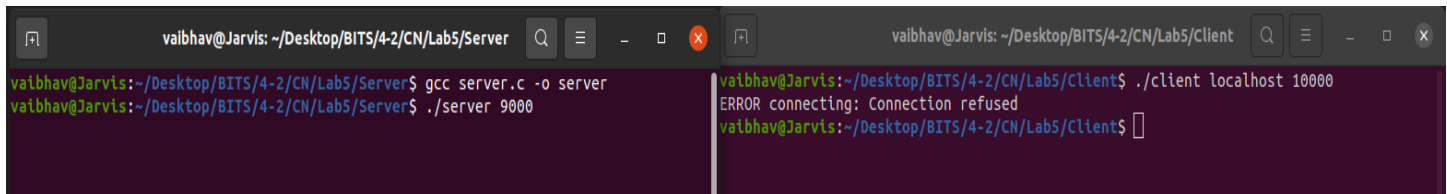


Here we can see that the empty file is created in the client directory.



We can see that the file is empty.

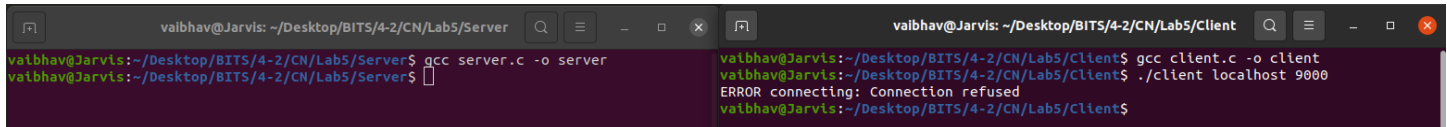
If the server is unreachable, the client must say so. (2 marks)



```
vaibhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab5/Server
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Server$ gcc server.c -o server
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Server$ ./server 9000

vaibhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab5/Client
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Client$ ./client localhost 10000
ERROR connecting: Connection refused
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Client$
```

As we can see that if the port number does not match, we get an error.



```
vaibhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab5/Server
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Server$ gcc server.c -o server
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Server$

vaibhav@Jarvis: ~/Desktop/BITS/4-2/CN/Lab5/Client
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Client$ gcc client.c -o client
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Client$ ./client localhost 9000
ERROR connecting: Connection refused
vaibhav@Jarvis:~/Desktop/BITS/4-2/CN/Lab5/Client$
```

We can see that the server is not running yet so the connection is refused and ERROR message is displayed.