

COMP 7005

Computer Networks & Protocols

Assignment-01

Testing

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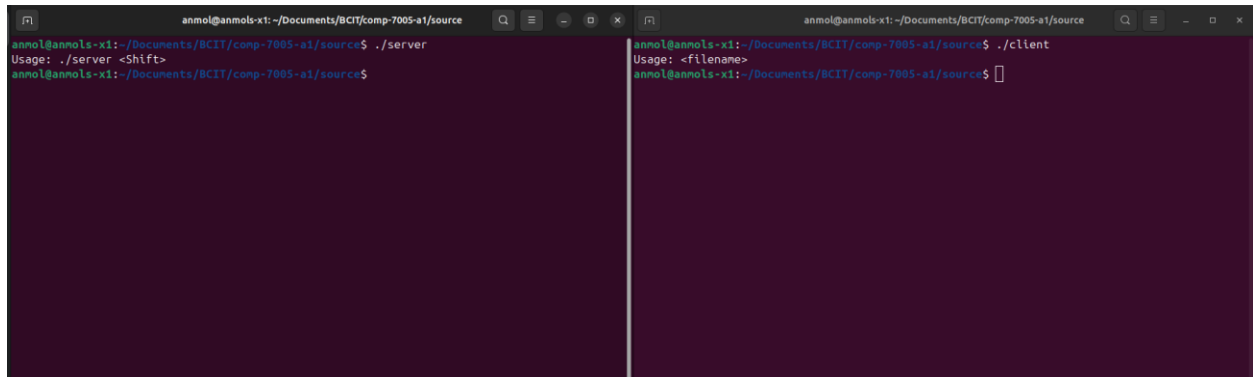
Course Reference Number (CRN): 92522

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Test	Expected	Actual	Screenshot
No arguments	fail	fail	Test 1
Invalid arguments	fail	fail	Test 2
Too many arguments	fail	fail	Test 3
Server is not running but client is sending request	fail	fail	Test 4
Server is running but Client entered wrong file path	fail	fail	Test 5
A small line with !	pass	pass	Test 6
One line sentence	pass	pass	Test 7
Negative shift on server	pass	pass	Test 8
Sending Numbers to Encrypt (Remained unchanged)	pass	pass	Test 9
Sending Symbols to Encrypt (Remained unchanged)	pass	pass	Test 10
Combination of alphabets, numbers and symbol	pass	pass	Test 11
Upper Case alphabets	pass	pass	Test 12
Lower Case alphabets	pass	pass	Test 13
Upper Case + Lower Case	pass	pass	Test 14
Empty File	fail	fail	Test 15
File with just spaces	pass	pass	Test 16
ASCII Code (Remained unchanged)	pass	pass	Test 17
Long file	pass	pass	Test 18
Not a text file but HTML	pass	pass	Test 19

Tests

Test 01

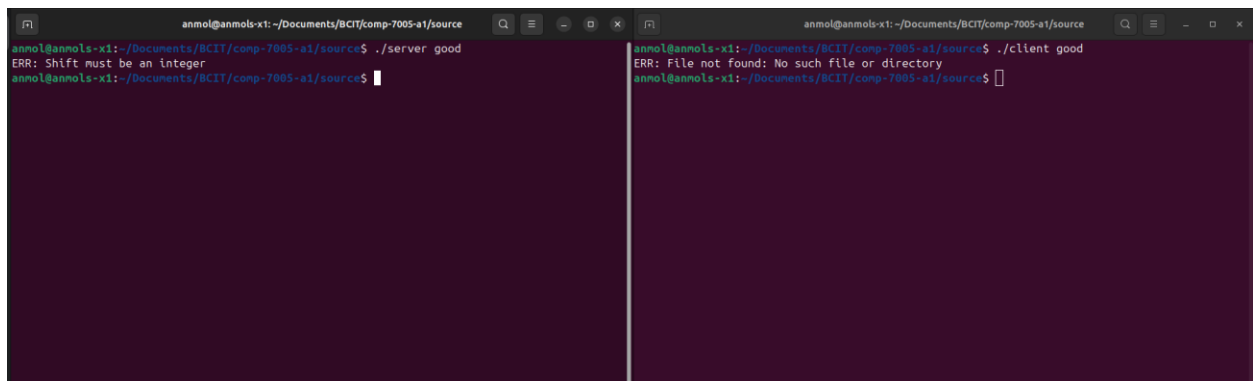


Two terminal windows side-by-side. The left window shows the command `./server` being executed, resulting in the usage message: `Usage: ./server <Shift>`. The right window shows the command `./client` being executed, resulting in the usage message: `Usage: <filename>`.

```
anmol@anmols-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@anmols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server
Usage: ./server <Shift>
anmol@anmols-x1:~/Documents/BCIT/comp-7005-a1/source$

anmol@anmols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client
Usage: <filename>
anmol@anmols-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 02

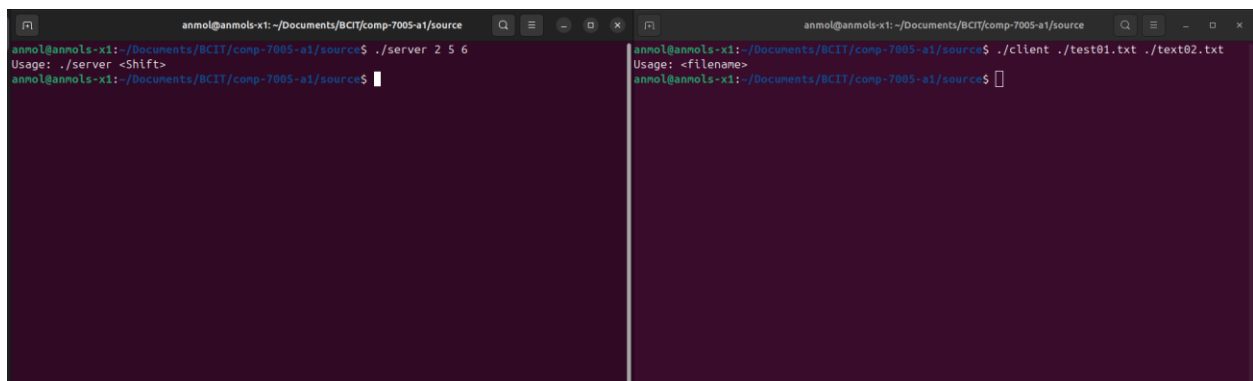


Two terminal windows side-by-side. The left window shows the command `./server good` being executed, resulting in the error message: `ERR: Shift must be an integer`. The right window shows the command `./client good` being executed, resulting in the error message: `ERR: File not found: No such file or directory`.

```
anmol@anmols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server good
ERR: Shift must be an integer
anmol@anmols-x1:~/Documents/BCIT/comp-7005-a1/source$

anmol@anmols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client good
ERR: File not found: No such file or directory
anmol@anmols-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 03

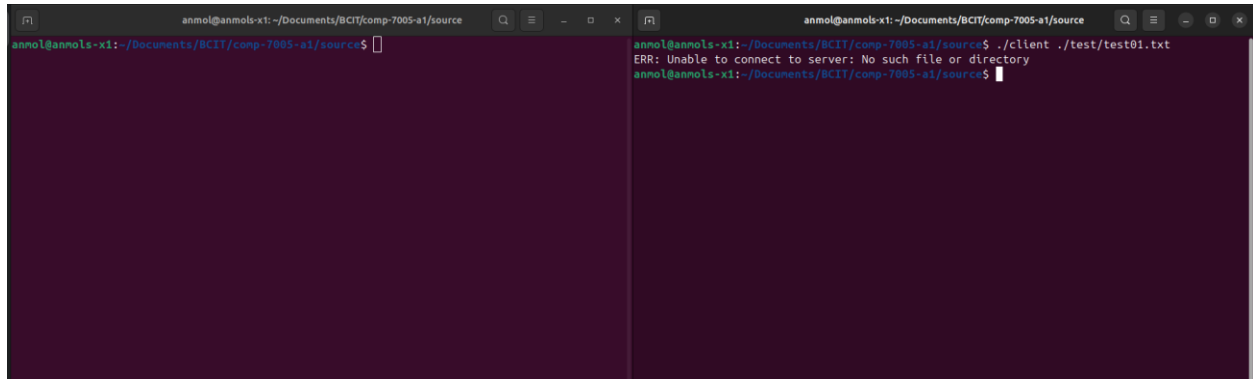


Two terminal windows side-by-side. The left window shows the command `./server 2 5 6` being executed, resulting in the usage message: `Usage: ./server <Shift>`. The right window shows the command `./client ./test01.txt ./text02.txt` being executed, resulting in the usage message: `Usage: <filename>`.

```
anmol@anmols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 2 5 6
Usage: ./server <Shift>
anmol@anmols-x1:~/Documents/BCIT/comp-7005-a1/source$

anmol@anmols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test01.txt ./text02.txt
Usage: <filename>
anmol@anmols-x1:~/Documents/BCIT/comp-7005-a1/source$
```

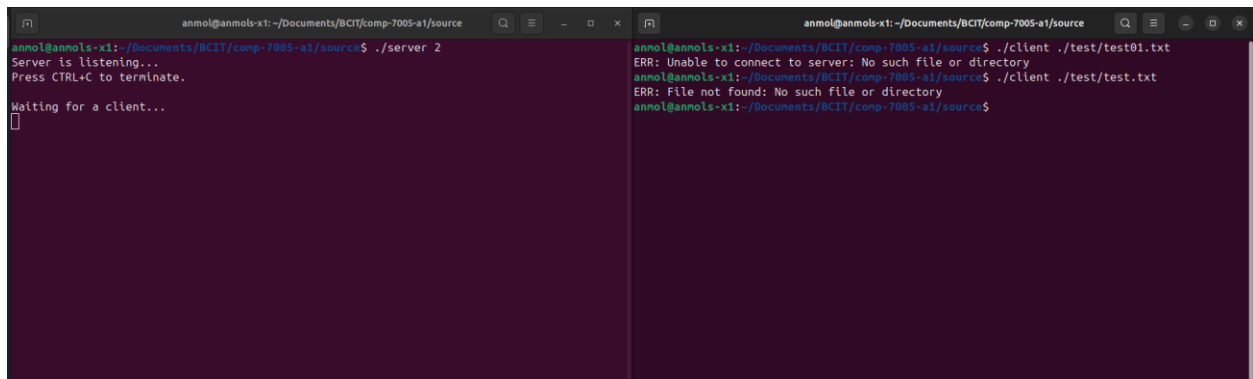
Test 04



```
anmol@anmol-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$

anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test01.txt
ERR: Unable to connect to server: No such file or directory
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$
```

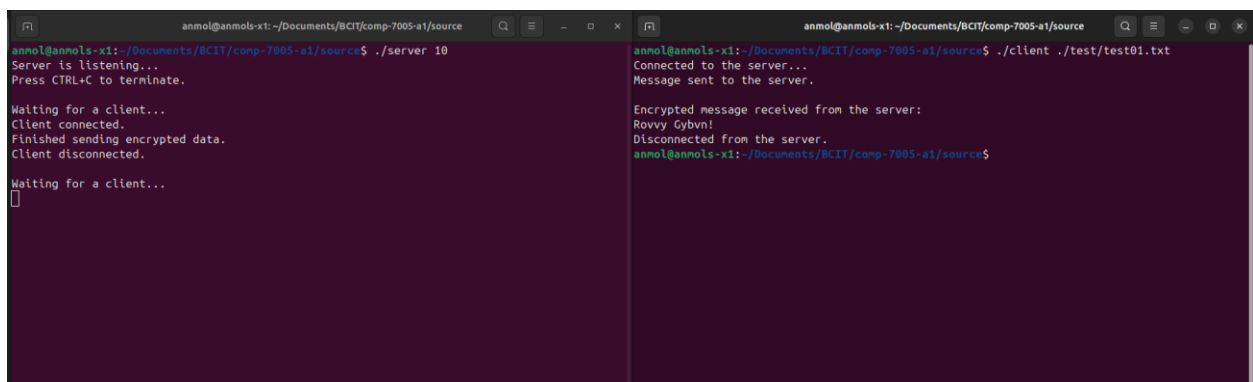
Test 05



```
anmol@anmol-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 2
Server is listening...
Press CTRL+C to terminate.
Waiting for a client...
^

anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test01.txt
ERR: Unable to connect to server: No such file or directory
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test.txt
ERR: File not found: No such file or directory
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 06

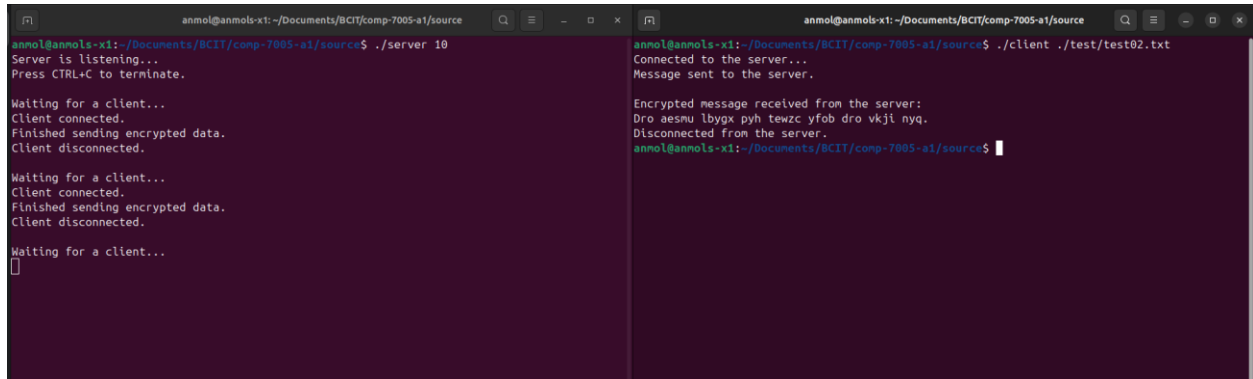


```
anmol@anmol-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 10
Server is listening...
Press CTRL+C to terminate.
Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.
Waiting for a client...
^

anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test01.txt
Message sent to the server.

Encrypted message received from the server:
Rovvy Gybnv!
Disconnected from the server.
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 07



The screenshot shows two terminal windows side-by-side. The left window is the server, and the right window is the client.

```
annol@annols-x1: ~/Documents/BCIT/comp-7005-a1/source
annol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 10
Server is listening...
Press CTRL+C to terminate.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

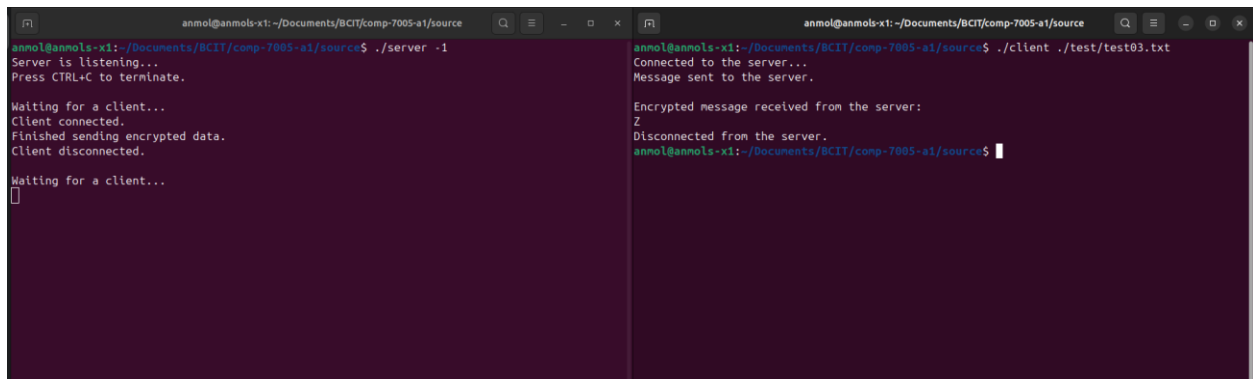
Waiting for a client...

```

```
annol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test02.txt
Message sent to the server.

Encrypted message received from the server:
Connected to the server...
Dro aesmu lbygx pyh tewzc yfob dro vkji nyq.
Disconnected from the server.
annol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 08



The screenshot shows two terminal windows side-by-side. The left window is the server, and the right window is the client.

```
annol@annols-x1: ~/Documents/BCIT/comp-7005-a1/source
annol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server -1
Server is listening...
Press CTRL+C to terminate.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

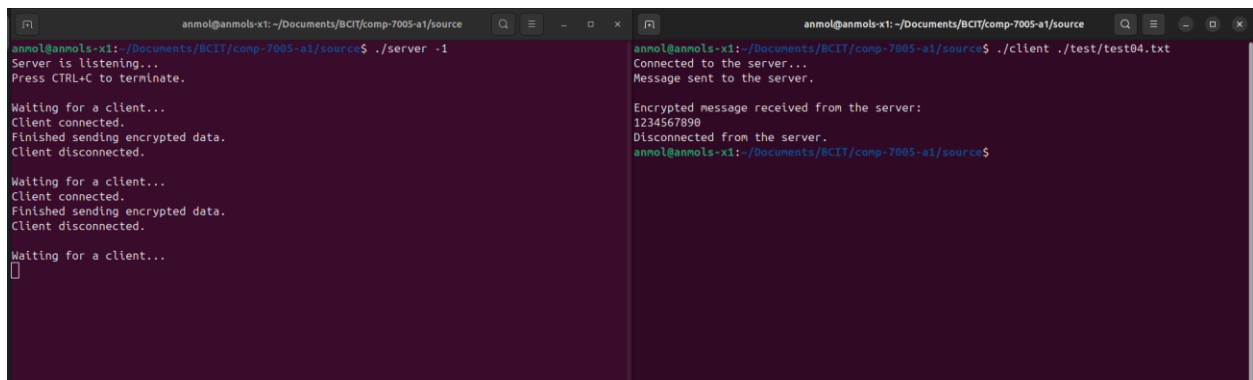
Waiting for a client...

```

```
annol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test03.txt
Message sent to the server.

Encrypted message received from the server:
Connected to the server...
Z
Disconnected from the server.
annol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 09



The screenshot shows two terminal windows side-by-side. The left window is the server, and the right window is the client.

```
annol@annols-x1: ~/Documents/BCIT/comp-7005-a1/source
annol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server -1
Server is listening...
Press CTRL+C to terminate.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...

```

```
annol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test04.txt
Message sent to the server.

Encrypted message received from the server:
Connected to the server...
1234567890
Disconnected from the server.
annol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 10

```
anmol@anmol-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 50
Server is listening...
Press CTRL+C to terminate.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
[]

anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test05.txt
Connected to the server...
Message sent to the server.

Encrypted message received from the server:
@#%&^&*()_+{}|:;<?
Disconnected from the server.
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 11

```
anmol@anmol-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 50
Server is listening...
Press CTRL+C to terminate.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
[]

anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test06.txt
Connected to the server...
Message sent to the server.

Encrypted message received from the server:
Nyqqu0pb123!
Disconnected from the server.
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 12

```
anmol@anmol-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 25
Server is listening...
Press CTRL+C to terminate.

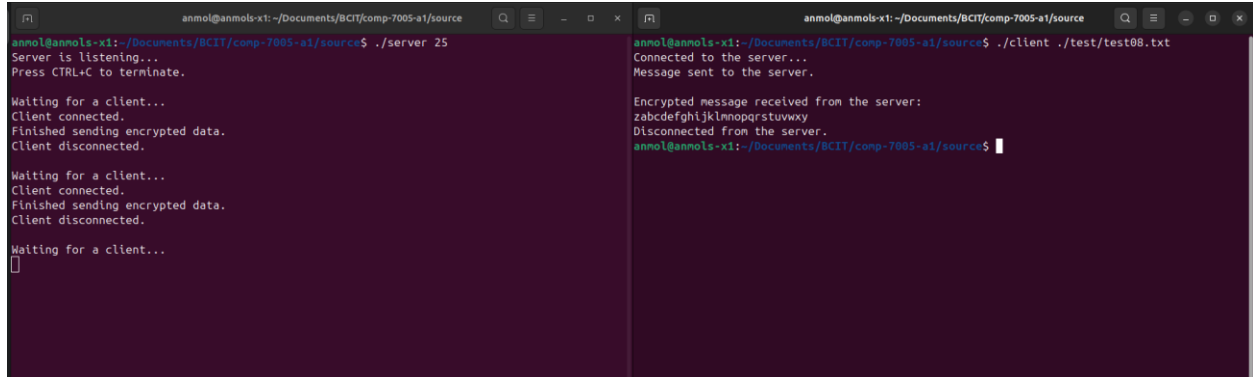
Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
[]

anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test07.txt
Connected to the server...
Message sent to the server.

Encrypted message received from the server:
ZABCOEFGHIJKLMNOPQRSTUVWXYZ
Disconnected from the server.
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 13



The screenshot shows two terminal windows. The left window is the server, and the right window is the client. The server is running a program that listens for connections and sends encrypted data. The client is running a program that connects to the server, sends a message, and receives an encrypted response.

```
anmol@anmol-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 25
Server is listening...
Press CTRL+C to terminate.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

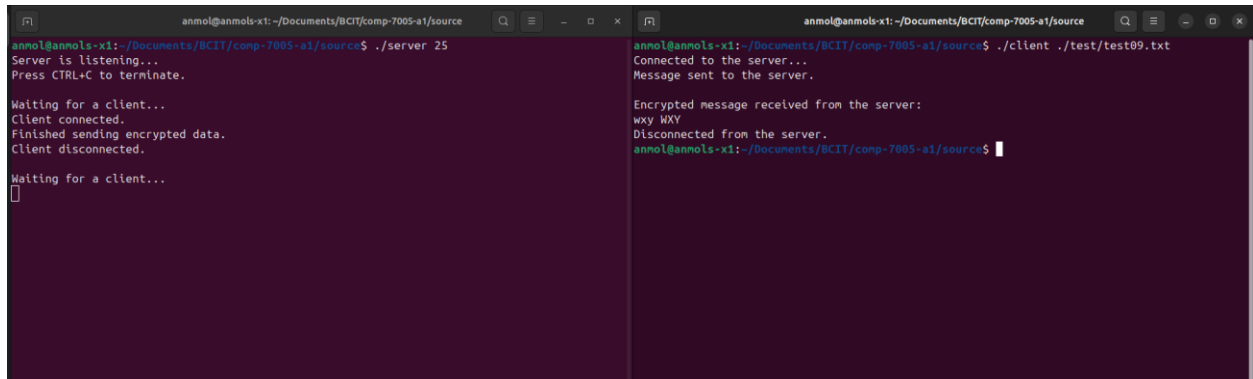
Waiting for a client...

```

```
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test08.txt
Connected to the server...
Message sent to the server.

Encrypted message received from the server:
zabcdefghijklmnopqrstuvwxyz
Disconnected from the server.
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 14



The screenshot shows two terminal windows. The left window is the server, and the right window is the client. The server is running a program that listens for connections and sends encrypted data. The client is running a program that connects to the server, sends a message, and receives an encrypted response.

```
anmol@anmol-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 25
Server is listening...
Press CTRL+C to terminate.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

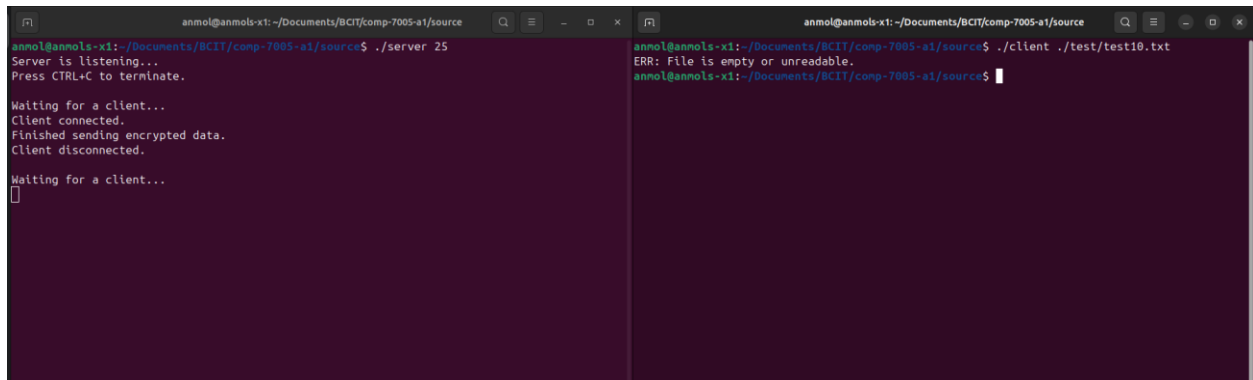
Waiting for a client...

```

```
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test09.txt
Connected to the server...
Message sent to the server.

Encrypted message received from the server:
wxy WXY
Disconnected from the server.
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 15



The screenshot shows two terminal windows. The left window is the server, and the right window is the client. The server is running a program that listens for connections and sends encrypted data. The client is running a program that connects to the server, sends a message, and receives an encrypted response.

```
anmol@anmol-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 25
Server is listening...
Press CTRL+C to terminate.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...

```

```
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test10.txt
ERR: File is empty or unreadable.
anmol@anmol-x1:~/Documents/BCIT/comp-7005-a1/source$
```


Test 16

```
anmol@annols-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 25
Server is listening...
Press CTRL+C to terminate.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
[]

anmol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test11.txt
Message sent to the server.

Encrypted message received from the server:

Disconnected from the server.
anmol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 17

```
anmol@annols-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 25
Server is listening...
Press CTRL+C to terminate.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
[]

anmol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test12.txt
Connected to the server...
Message sent to the server.

Encrypted message received from the server:
你好，世界！ Привет, мир!
Disconnected from the server.
anmol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$
```

Test 18

```
anmol@annols-x1: ~/Documents/BCIT/comp-7005-a1/source
anmol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 20
Server is listening...
Press CTRL+C to terminate.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
[]

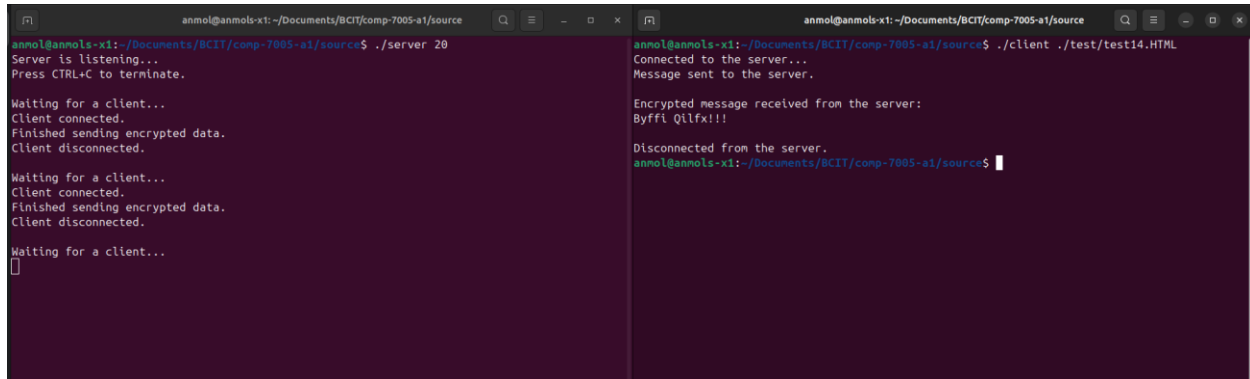
anmol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$
#### 1. Div Xcxfuwgyghn
UC-xlcpyh uontguncih nilyunymh ni lyjfwy dlym uwllym pulclom chxonnlcym, julncwofulfs ch g
uhozuwnolcha, womnigyl mylpcwy, uhx xunu yhnls. Qbcfy UC wlyunym hyq div ijjiinohcncym ch n
ywb-lyfunyx zcyfxm, cn cn wlowcuf ni lynefff uhx ojnefff nby qilezllwy ni uxujn ni nby ypif
pcha div fuhxmwuj.

#### 2. Vcum uhx Zuclhymh
UC glxyfm fyulh zlig yrcmcha xunu, qbcwb gus wihnuh vcunym nbun wuh fyux ni xcmlcgchunil
s ionwiygm. Vcumyx UC msnymgm wuh jyljynouny mltwuf chykoufcncym ch bclcha, fuq yhzilwgyghn
, uhx fyhxcha. Yhmolcha zuclhymh ch UC xywncnih-guecha lykoclym xcpylmy uhx lyjlymynhuncpy
xunumym, lcalliom nymncha, uhx nluhmjulyhws ch ufalcnbgcw jliwymym.

#### 3. Jlcpuws uhx Mywlcns
UC'm uvcfcns ni jliwymn punn ugiohnm iz jylnihuf xunu lucnym wihwylm uvion jlcpuws uhx myw
olcns. Zuwuf lywiahcnth nywbhiflas, mltwuf gyxcu ufalcnbgn, uhx mltwycffuhwy msnymgm wuh
chzichay th chxcpcxoufm' lcahnm cz hin lyaoofunyx jlijylfs. Ggyfyghncha mltcwn xunu jliwym
nch fuqm uhx ynbwuf UC zlugyqllem cn ymyhncuf ni muzyaoulx jlcpuws.

#### 4. Ynbwuf Xywcncih-Guecha
UC-jlyglyx msnymgm uly chilyumchafs omx ch wlcncwuf xywncnih-guecha jliwymym, mowb um wlc
gchuf donncwy uhx byufnbwuly. Biqpyl, UC fuwem boguh doxagyhn uhx ynbwuf lyumichcha, qbcwb
wuh fyux ni ohchnyhyx wihnykoyhwym. Ymnuvfcnbcha aocxyfchym zil ynbwuf UC xyfifisgyhn uhx
```

Test 19



The image shows two terminal windows side-by-side, both with the title bar 'annol@annols-x1: ~/Documents/BCIT/comp-7005-a1/source'. The left window shows the server process running with the command './server 20'. It displays the following output: 'Server is listening...', 'Press CTRL+C to terminate.', 'Waiting for a client...', 'Client connected.', 'Finished sending encrypted data.', 'Client disconnected.', 'Waiting for a client...', 'Client connected.', 'Finished sending encrypted data.', 'Client disconnected.', 'Waiting for a client...', and a cursor. The right window shows the client process running with the command './client ./test/test14.HTML'. It displays the following output: 'Connected to the server...', 'Message sent to the server.', 'Encrypted message received from the server:', 'Byffi Qilfx!!!', 'Disconnected from the server.', and a cursor.

```
annol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./server 20
Server is listening..
Press CTRL+C to terminate.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
Client connected.
Finished sending encrypted data.
Client disconnected.

Waiting for a client...
█

annol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ ./client ./test/test14.HTML
Connected to the server...
Message sent to the server.

Encrypted message received from the server:
Byffi Qilfx!!!

Disconnected from the server.
annol@annols-x1:~/Documents/BCIT/comp-7005-a1/source$ █
```