

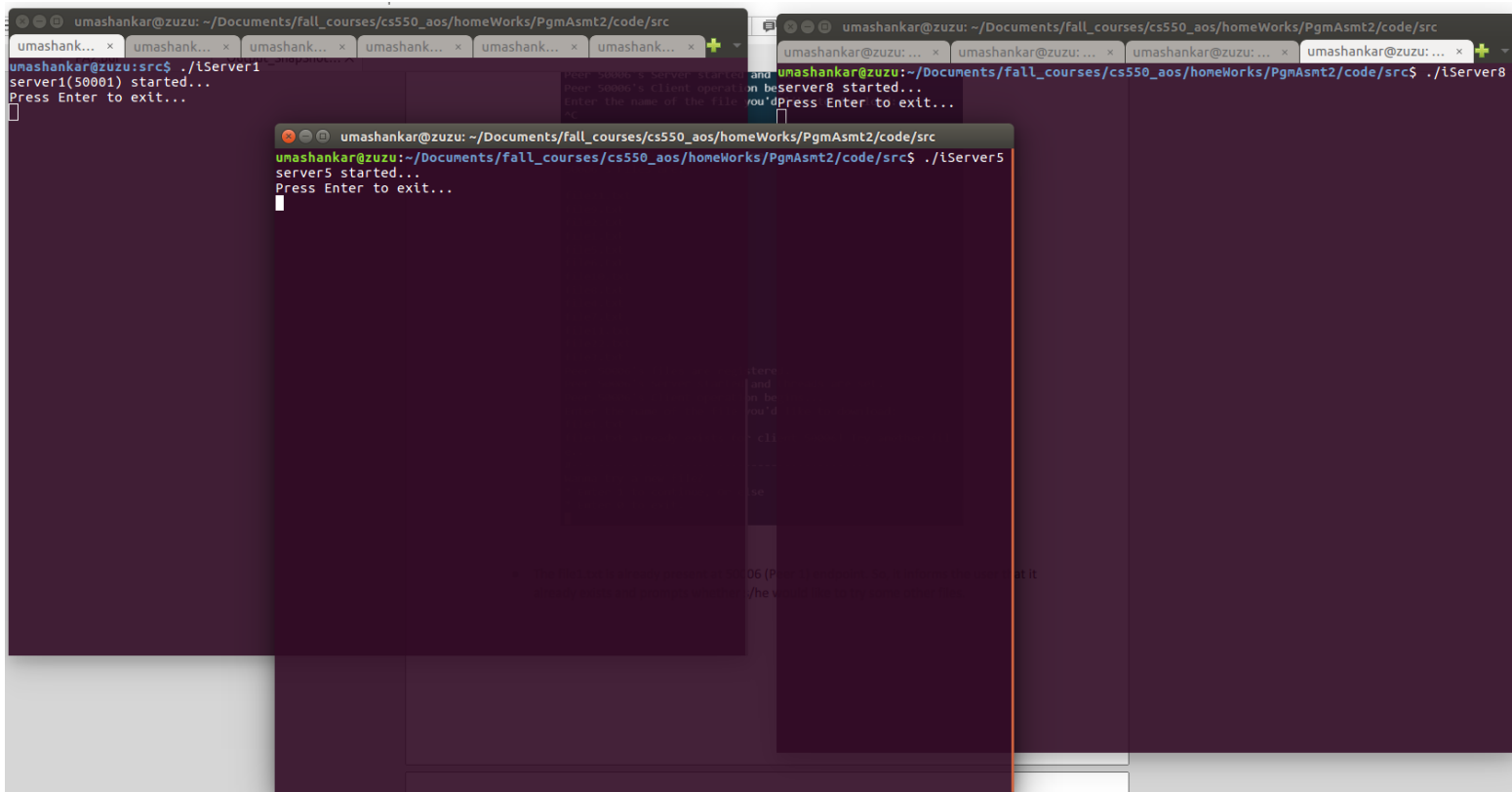
CS 550 Programming Assignment - 2

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Output Snapshots for Peer to Peer Network

Following are the screenshots taken during the p2p system run:

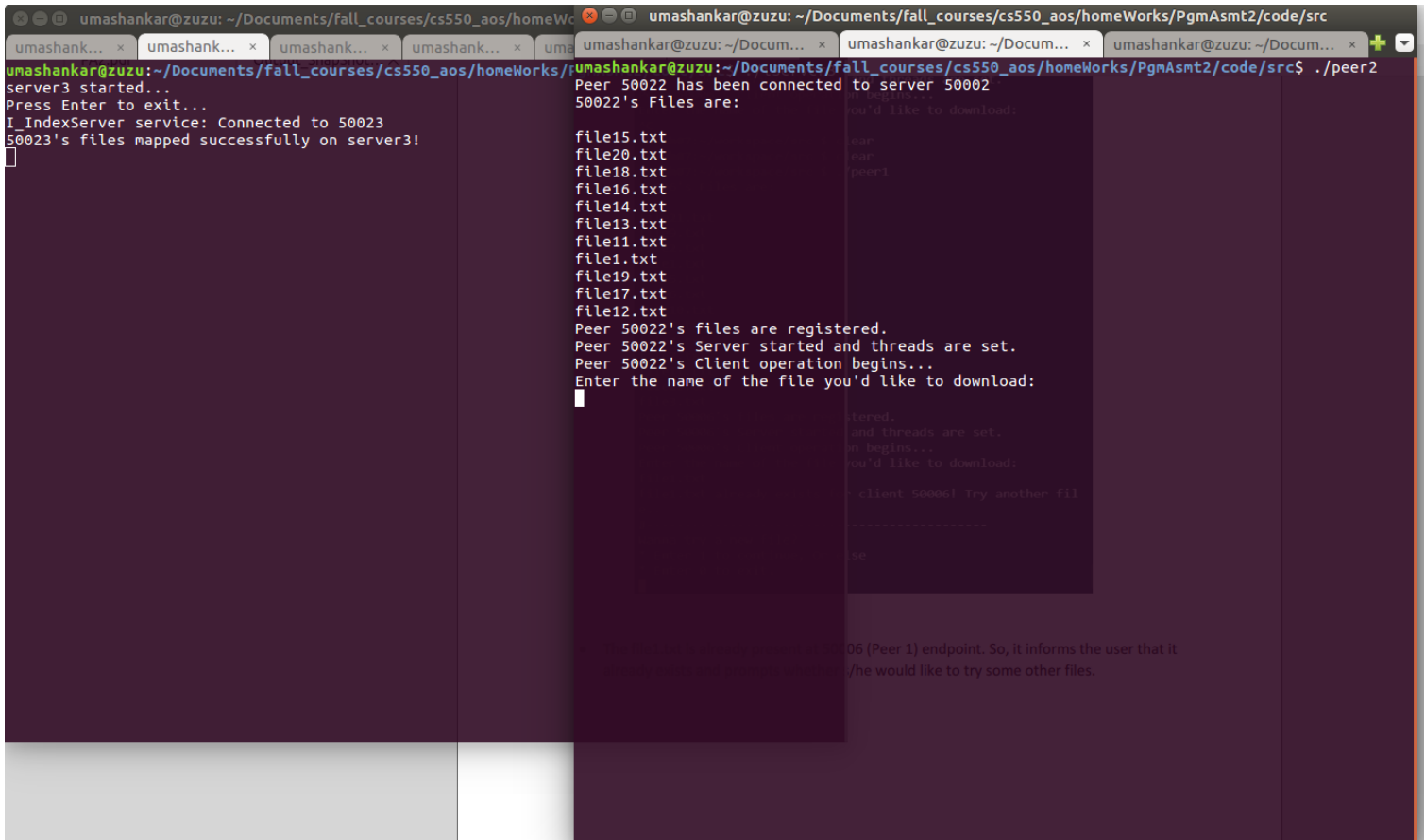
1) Indexing Servers begin:



The image displays three overlapping terminal windows from a Linux environment. The top-left window shows the execution of `./iServer1`, with output indicating `server1(50001) started...` and a prompt to `Press Enter to exit...`. The top-right window shows the execution of `./iServer8`, with output indicating `server8 started...` and a prompt to `Press Enter to exit...`. The bottom window, which is the most prominent, shows the execution of `./iServer5`, with output indicating `server5 started...` and a prompt to `Press Enter to exit...`. All windows show the user `umashankar` at the `zuzu` machine, in the directory `~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/code/src`.

- The picture shows the beginning of Indexing Servers 1, 2 and 8 just when they are executed with their binaries.

2) Peer 2 registers with the Indexing server:



```
umashankar@zuzu: ~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/code/src
umashankar@zuzu:~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/code/src$ ./peer2
server3 started...
Press Enter to exit...
I_IndexServer service: Connected to 50023
50023's files mapped successfully on server3!

Peer 50022 has been connected to server 50002
50022's Files are:
file15.txt
file20.txt
file18.txt
file16.txt
file14.txt
file13.txt
file11.txt
file1.txt
file19.txt
file17.txt
file12.txt
Peer 50022's files are registered.
Peer 50022's Server started and threads are set.
Peer 50022's Client operation begins...
Enter the name of the file you'd like to download:

```

- Now the peer2 (50022) binary gets executed and connects with its nearby server 50002.
- Similarly the Indexing server 3 (50003) acknowledges the connection with its peer (endpoint 50023) and informs that file indexing is successful.
- Peer2 prompts the user to input any filename to search for.

3) Peer7 gets files from peers 1 and 3:

```

umashankar@zuzu: ~/Documents/fall_courses/cs550
umashankar@zuzu:~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/code/src$ ./peer1
Peer 50021 has been connected to server 50001
50021's Files are:
file3.txt ../lib/RCF-2.2.0.0/include/
file4.txt ../lib/RCF-2.2.0.0/src/RCF/RCF.cpp
file2.txt ../include/index_server.h
file10.txt ONS = -lboost_system -lboost_filesystem
file7.txt
file8.txt server1 iServer2 iServer3 iServer4 iServer5
file6.txt
file5.txt
file1.txt index_server1_main.cpp index_server2_main.cpp
file9.txt C) index_server1_main.cpp index_server2_main.cpp
Peer 50021's files are registered.
Peer 50021's Server started and threads are set.
Peer 50021's Client operation begins...
Enter the name of the file you'd like to download:
iServer3: index_server3_main.cpp index_server4_main.cpp
$ (CC) index_server3_main.cpp index_server4_main.cpp

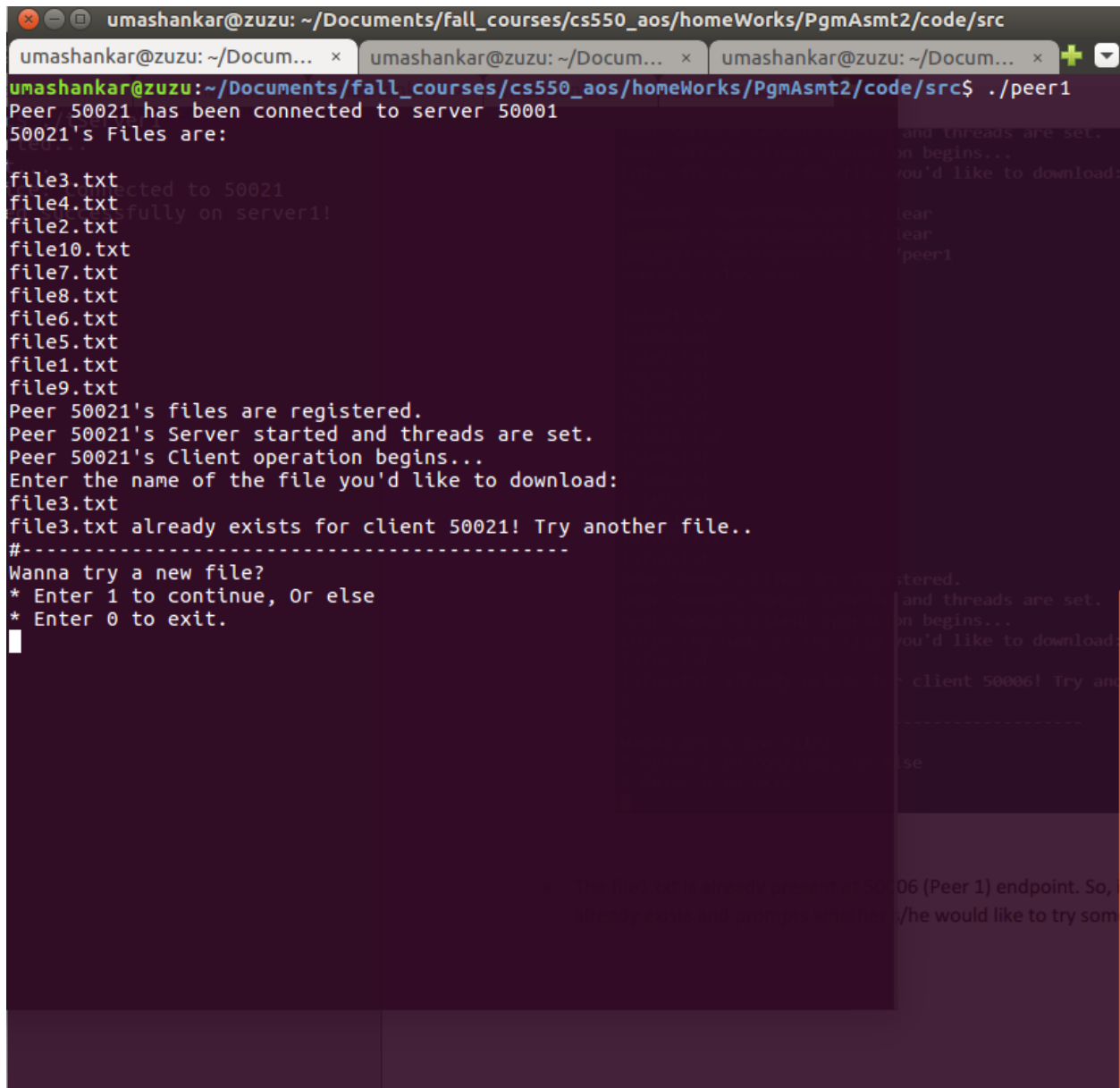
umashankar@zuzu:~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/code/src$ ./peer3
Peer 50023 has been connected to server 50003
50023's Files are:
file24.txt
file27.txt
file21.txt
file26.txt
file25.txt
file28.txt
file22.txt
file30.txt
file23.txt
file29.txt
Peer 50023's files are registered.
Peer 50023's Server started and threads are set.
Peer 50023's Client operation begins...
Enter the name of the file you'd like to download:

umashankar@zuzu:~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/code/src$ ./peer7
Peer 50027 has been connected to server 50007
50027's Files are:
file66.txt
file67.txt
file64.txt
file70.txt
file61.txt
file65.txt
file68.txt
file62.txt
file69.txt
file63.txt
Peer 50027's files are registered.
Peer 50027's Server started and threads are set.
Peer 50027's Client operation begins...
Enter the name of the file you'd like to download:
file1.txt
The seed server(s) containing file1.txt is/are:
50021
$$ Client 50027 has got file1.txt from Peer 50021 $$
Download Success!
Peer 50027's files are registered.
#-----
Wanna try a new file?
* Enter 1 to continue, Or else
* Enter 0 to exit.
1
Enter the name of the file you'd like to download:
file24.txt
The seed server(s) containing file24.txt is/are:
50023
$$ Client 50027 has got file24.txt from Peer 50023 $$
Download Success!
Peer 50027's files are registered.
#-----
Wanna try a new file?
* Enter 1 to continue, Or else

```

- Peer7 (endpoint 50027) requests file1.txt and file24.txt from the servers and they get downloaded.

4) User at Peer1 window enters a filename (file1.txt) though it already has:



```
umashankar@zuzu: ~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/code/src
umashankar@zuzu: ~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/code/src$ ./peer1
Peer 50021 has been connected to server 50001
50021's Files are:
file3.txt
file4.txt
file2.txt
file10.txt
file7.txt
file8.txt
file6.txt
file5.txt
file1.txt
file9.txt
Peer 50021's files are registered.
Peer 50021's Server started and threads are set.
Peer 50021's Client operation begins...
Enter the name of the file you'd like to download:
file3.txt
file3.txt already exists for client 50021! Try another file..
#-----
Wanna try a new file?
* Enter 1 to continue, Or else
* Enter 0 to exit.
1
```

- file1.txt is already present at 50021 (Peer 1) endpoint. So, it informs the user that it already exists and prompts whether s/he would like to try some other files.

5) **Peer7 alerts user that it has just downloaded the required file from the other peer:**

```
umashankar@zuzu: ~/Documents/fall_courses/cs550
umashankar@zuzu:src$ ./peer1
Peer 50021 has been connected to server 50001
50021's Files are:
file3.txt = ../lib/RCF-2.2.0.0/include/
file4.txt = ../include/index_server.h
file2.txt = ../include/peer.h
file10.txt = -lboost_system -lboost_filesystem
file7.txt
file8.txt
file6.txt
file5.txt
file1.txt
file9.txt
Peer 50021's files are registered.
Peer 50021's Server started and threads are set.
Peer 50021's Client operation begins...
Enter the name of the file you'd like to download:
iServer3: index_server3_main.cpp index_server3_main.cpp
$ (CC) index_server3_main.cpp index_server3_main.cpp

umashankar@zuzu: ~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/cod
umashankar@zuzu:~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/cod
Peer 50023 has been connected to server 50003
50023's Files are:
file24.txt
file27.txt
file21.txt
file26.txt
file25.txt
file28.txt
file22.txt
file30.txt
file23.txt
file29.txt
Peer 50023's files are registered.
Peer 50023's Server started and threads are set.
Peer 50023's Client operation begins...
Enter the name of the file you'd like to download:

umashankar@zuzu: ~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/cod
umashankar@zuzu:~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/cod
Peer 50022 has been connected to server 50002
50022's Files are:
file15.txt
file20.txt
file18.txt
file16.txt
file14.txt
file13.txt
file11.txt
file1.txt
file19.txt
file17.txt
file12.txt
Peer 50022's files are registered.
Peer 50022's Server started and threads are set.
Peer 50022's Client operation begins...
Enter the name of the file you'd like to download:

peer2: peer2_main.cpp peer.cpp $(DEPS PR)
$(CC) peer2_main.cpp peer.cpp $(SRCLIB)

peer3: peer3_main.cpp peer.cpp $(DEPS PR)
$(CC) peer3_main.cpp peer.cpp $(SRCLIB)

peer4: peer4_main.cpp peer.cpp $(DEPS PR)
$(CC) peer4_main.cpp peer.cpp $(SRCLIB)

peer5: peer5_main.cpp peer.cpp $(DEPS PR)
$(CC) peer5_main.cpp peer.cpp $(SRCLIB)

peer6: peer6_main.cpp peer.cpp $(DEPS PR)
$(CC) peer6_main.cpp peer.cpp $(SRCLIB)

umashankar@zuzu:~/Documents/fall_courses/cs550_aos/homeWorks/PgmAsmt2/cod
Peer 50027's files are registered.
Peer 50027's Server started and threads are set.
Peer 50027's Client operation begins...
Enter the name of the file you'd like to download:
file1.txt
The seed server(s) containing file1.txt is/are:
50021
$$ Client 50027 has got file1.txt from Peer 50021 $$
Download Success!
Peer 50027's files are registered.
#-----
Wanna try a new file?
* Enter 1 to continue, Or else
* Enter 0 to exit.
1
Enter the name of the file you'd like to download:
file24.txt
The seed server(s) containing file24.txt is/are:
50023
$$ Client 50027 has got file24.txt from Peer 50023 $$
Download Success!
Peer 50027's files are registered.
#-----
Wanna try a new file?
* Enter 1 to continue, Or else
* Enter 0 to exit.
1
Enter the name of the file you'd like to download:
file24.txt
file24.txt already exists for client 50027! Try another file..
#-----
Wanna try a new file?
* Enter 1 to continue, Or else
* Enter 0 to exit.
0
```

- file24.txt is just before downloaded from the server 50023. So, it alerts the user that it already exists and prompts whether s/he would like to try some other files.