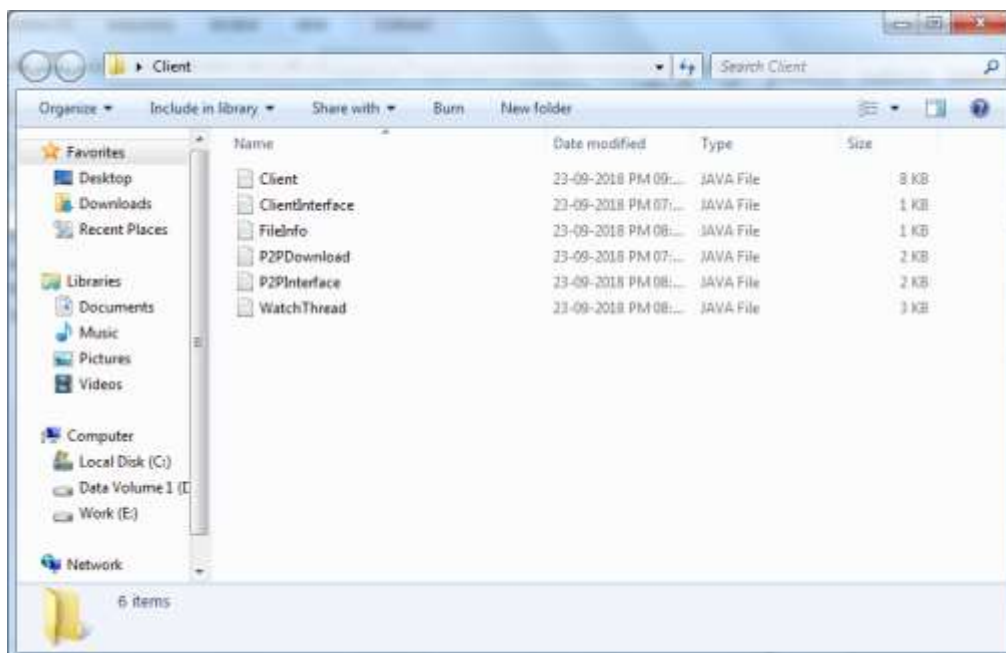
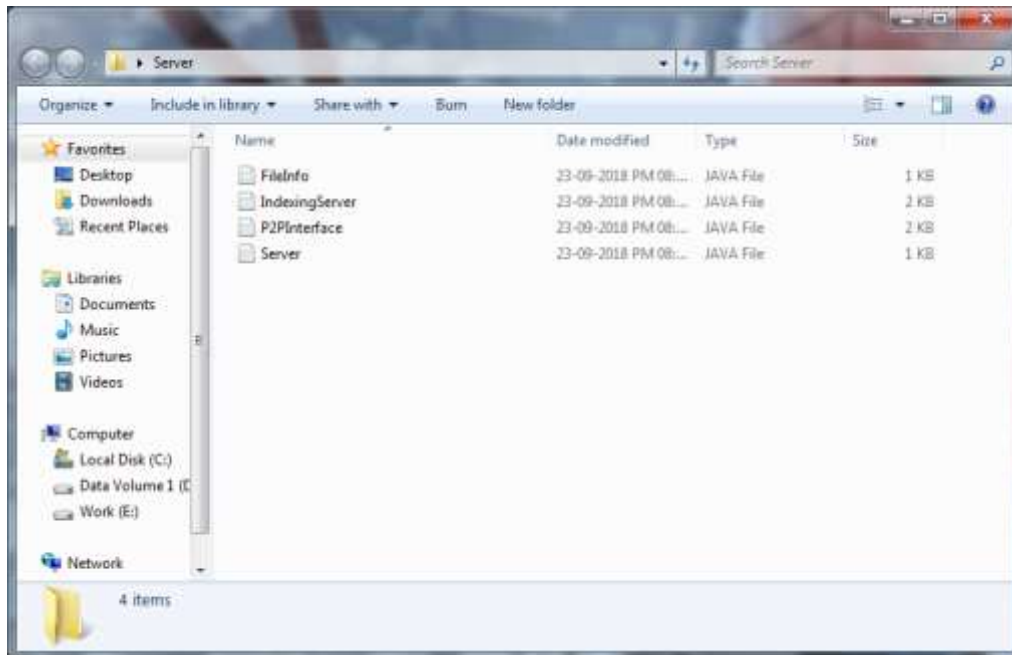


AOS Programming Assignment 1

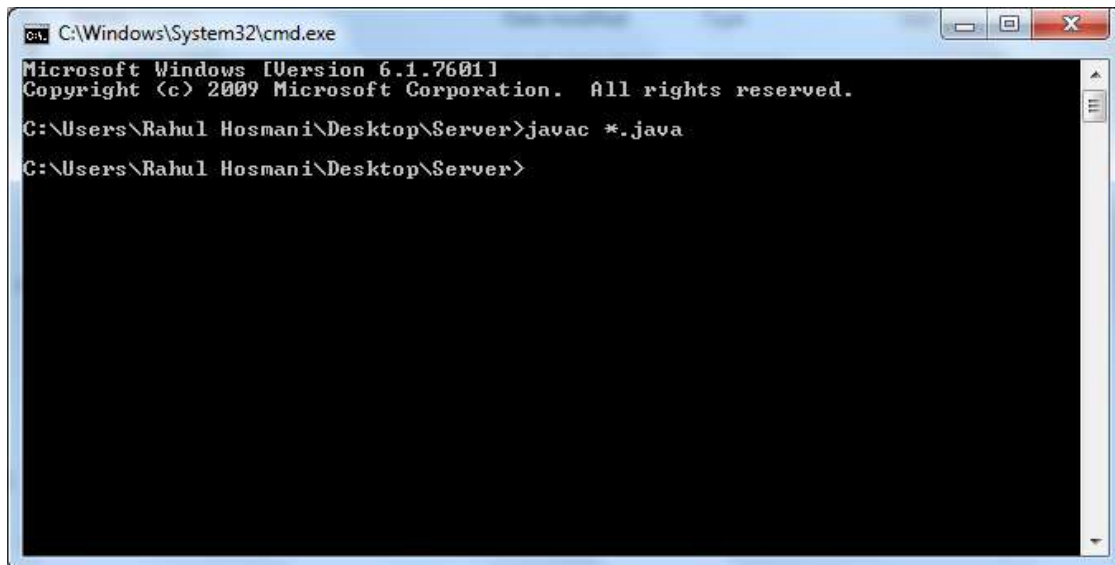
User Manual

The project has two directories which contains the source files of the Client and Server respectively. Please follow the following steps to execute the Assignment.



1. Open command prompt and navigate to the directory which contains all the source files of the server. Execute the following command.

```
javac *.java
```



```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Rahul Hosmani\Desktop\Server>javac *.java
C:\Users\Rahul Hosmani\Desktop\Server>
```

2. Open a separate command prompt and navigate to the directory which contains all the source files of the client. Execute the following command

```
javac *.java
```

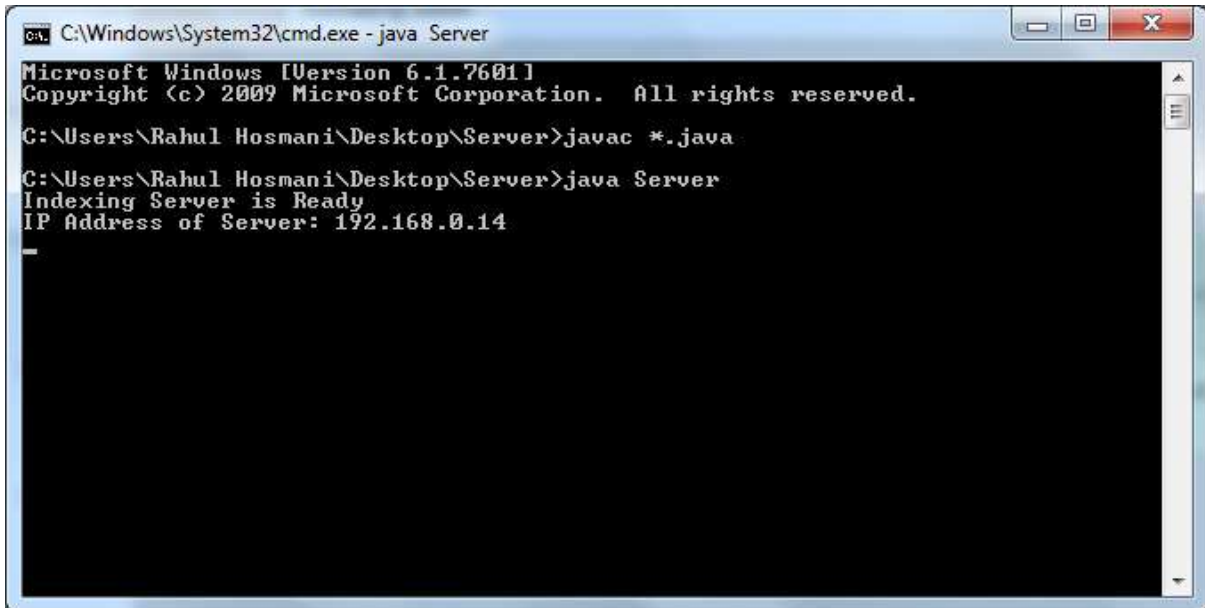


```
C:\Windows\System32\cmd.exe
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Rahul Hosmani\Desktop\Client>javac *.java
C:\Users\Rahul Hosmani\Desktop\Client>
```

3. Execute server file.

java Server



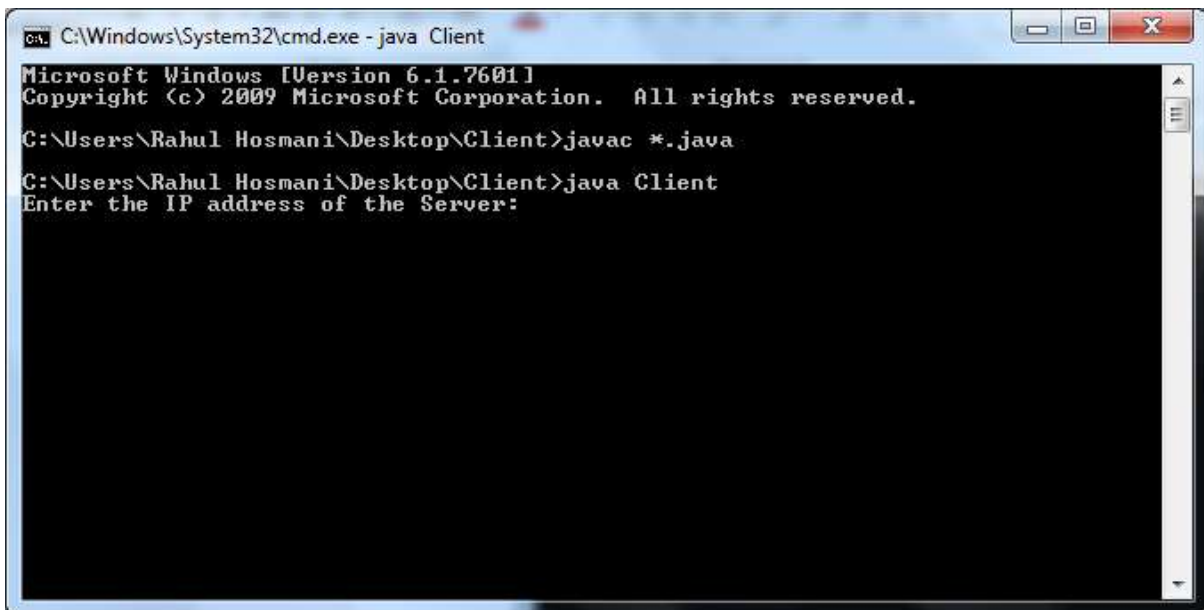
```
C:\Windows\System32\cmd.exe - java Server
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Rahul Hosmani\Desktop\Server>javac *.java

C:\Users\Rahul Hosmani\Desktop\Server>java Server
Indexing Server is Ready
IP Address of Server: 192.168.0.14
```

4. Execute Client file

java Client



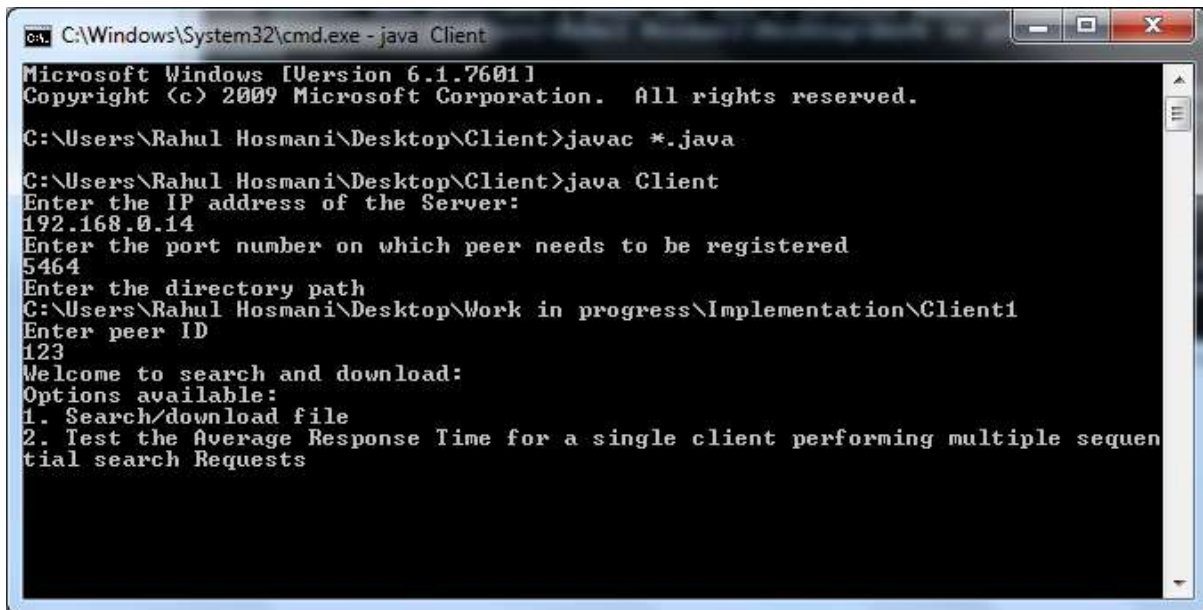
```
C:\Windows\System32\cmd.exe - java Client
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Rahul Hosmani\Desktop\Client>javac *.java

C:\Users\Rahul Hosmani\Desktop\Client>java Client
Enter the IP address of the Server:
```

5. In the Client window,
 - a. Enter the server ip which is displayed in the server window
 - b. Enter a unique port number Eg: 5464
 - c. Enter the directory path: Eg: C:\Implementation\Client1

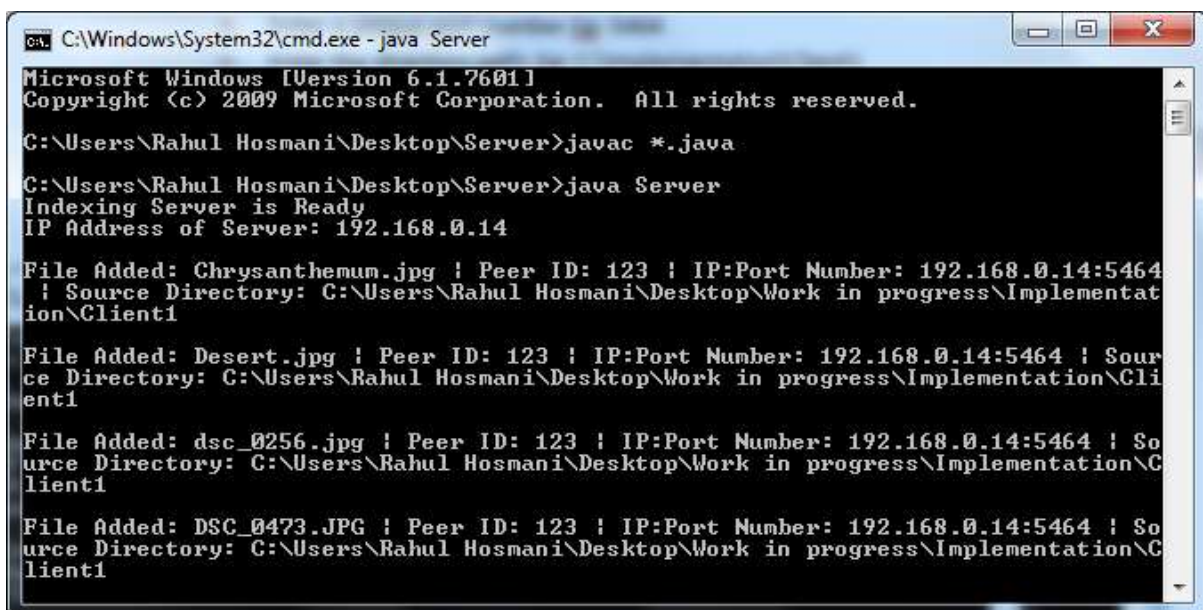
- d. Enter peer ID to identify yourself on the network Eg: 123



```
C:\Windows\System32\cmd.exe - java Client
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Rahul Hosmani\Desktop\Client>javac *.java
C:\Users\Rahul Hosmani\Desktop\Client>java Client
Enter the IP address of the Server:
192.168.0.14
Enter the port number on which peer needs to be registered
5464
Enter the directory path
C:\Users\Rahul Hosmani\Desktop\Work in progress\Implementation\Client1
Enter peer ID
123
Welcome to search and download:
Options available:
1. Search/download file
2. Test the Average Response Time for a single client performing multiple sequential search Requests
```

The files have been indexed and displayed in the server window.



```
C:\Windows\System32\cmd.exe - java Server
Microsoft Windows [Version 6.1.7601]
Copyright (c) 2009 Microsoft Corporation. All rights reserved.

C:\Users\Rahul Hosmani\Desktop\Server>javac *.java
C:\Users\Rahul Hosmani\Desktop\Server>java Server
Indexing Server is Ready
IP Address of Server: 192.168.0.14

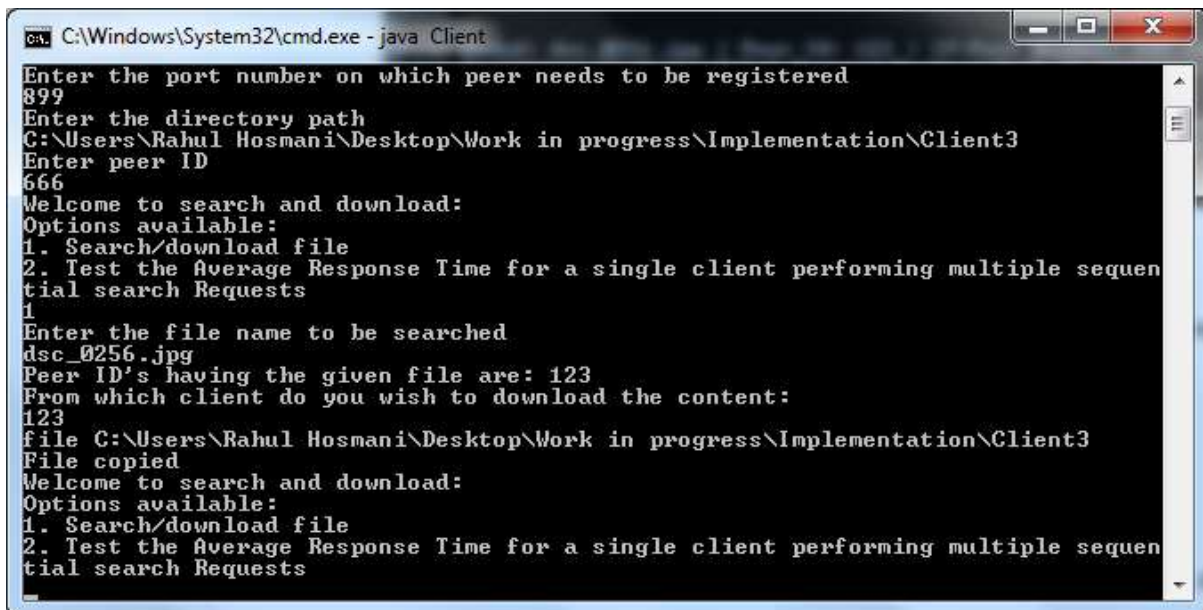
File Added: Chrysanthemum.jpg ! Peer ID: 123 ! IP:Port Number: 192.168.0.14:5464 ! Source Directory: C:\Users\Rahul Hosmani\Desktop\Work in progress\Implementation\Client1
File Added: Desert.jpg ! Peer ID: 123 ! IP:Port Number: 192.168.0.14:5464 ! Source Directory: C:\Users\Rahul Hosmani\Desktop\Work in progress\Implementation\Client1
File Added: dsc_0256.jpg ! Peer ID: 123 ! IP:Port Number: 192.168.0.14:5464 ! Source Directory: C:\Users\Rahul Hosmani\Desktop\Work in progress\Implementation\Client1
File Added: DSC_0473.JPG ! Peer ID: 123 ! IP:Port Number: 192.168.0.14:5464 ! Source Directory: C:\Users\Rahul Hosmani\Desktop\Work in progress\Implementation\Client1
```

6. Execute Step 4 and 5 to create multiple clients, making sure they have a different directory path, unique port number and peer id.

To download a file:

Precondition: The server should be running. And at least two clients should be registered.

1. In the client window,
 - a. Press 1 to Start search and Download a file
 - b. Enter the file name which the other client has in its shared directory. Eg.:
dsc_0256.jpg
 - c. The program will give a list of peers that contain the searched file.
 - d. Enter the peer id.
 - e. The file has been downloaded.



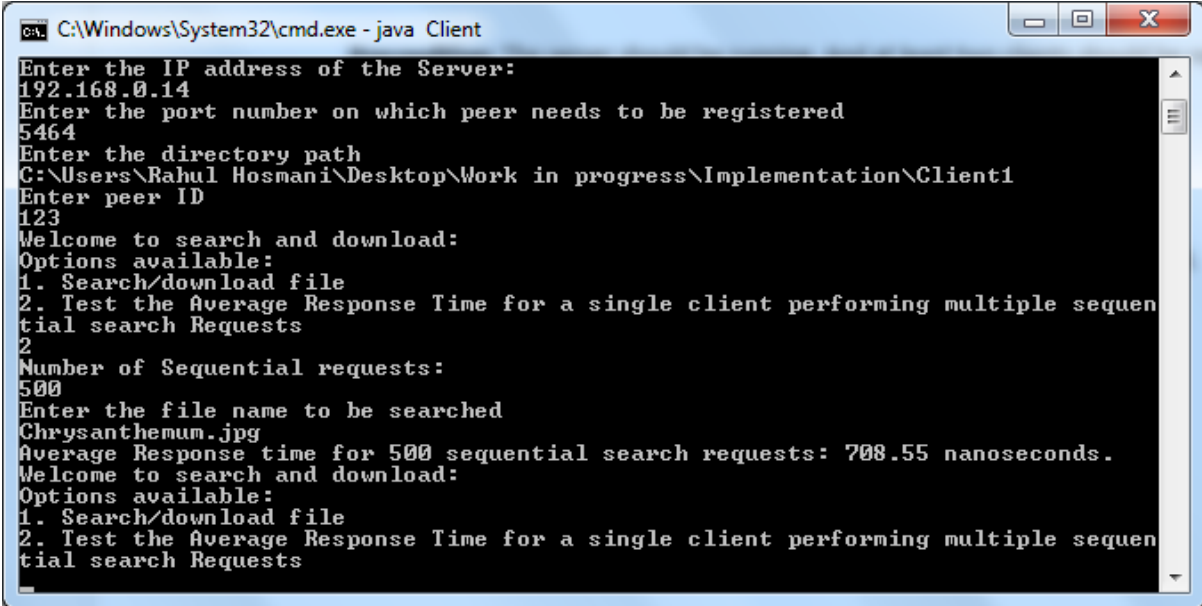
```
C:\Windows\System32\cmd.exe - java Client
Enter the port number on which peer needs to be registered
899
Enter the directory path
C:\Users\Rahul Hosmani\Desktop\Work in progress\Implementation\Client3
Enter peer ID
666
Welcome to search and download:
Options available:
1. Search/download file
2. Test the Average Response Time for a single client performing multiple sequential search Requests
1
Enter the file name to be searched
dsc_0256.jpg
Peer ID's having the given file are: 123
From which client do you wish to download the content:
123
file C:\Users\Rahul Hosmani\Desktop\Work in progress\Implementation\Client3
File copied
Welcome to search and download:
Options available:
1. Search/download file
2. Test the Average Response Time for a single client performing multiple sequential search Requests
```

To Test Average response time for multiple sequential search:

Precondition: The server should be running. And at least two clients should be registered.

2. In the client window,
 - a. Press 2 to Start the test
 - b. Enter the number of sequential search requests. Eg: 500
 - c. Enter File name to be searched Eg: Chrysanthemum.jpg

- d. The average response time for 500 sequential requests is displayed.



```
C:\Windows\System32\cmd.exe - java Client
Enter the IP address of the Server:
192.168.0.14
Enter the port number on which peer needs to be registered
5464
Enter the directory path
C:\Users\Rahul Hosmani\Desktop\Work in progress\Implementation\Client1
Enter peer ID
123
Welcome to search and download:
Options available:
1. Search/download file
2. Test the Average Response Time for a single client performing multiple sequential search Requests
2
Number of Sequential requests:
500
Enter the file name to be searched
Chrysanthemum.jpg
Average Response time for 500 sequential search requests: 708.55 nanoseconds.
Welcome to search and download:
Options available:
1. Search/download file
2. Test the Average Response Time for a single client performing multiple sequential search Requests
```