

Verification Test

1. Preparation

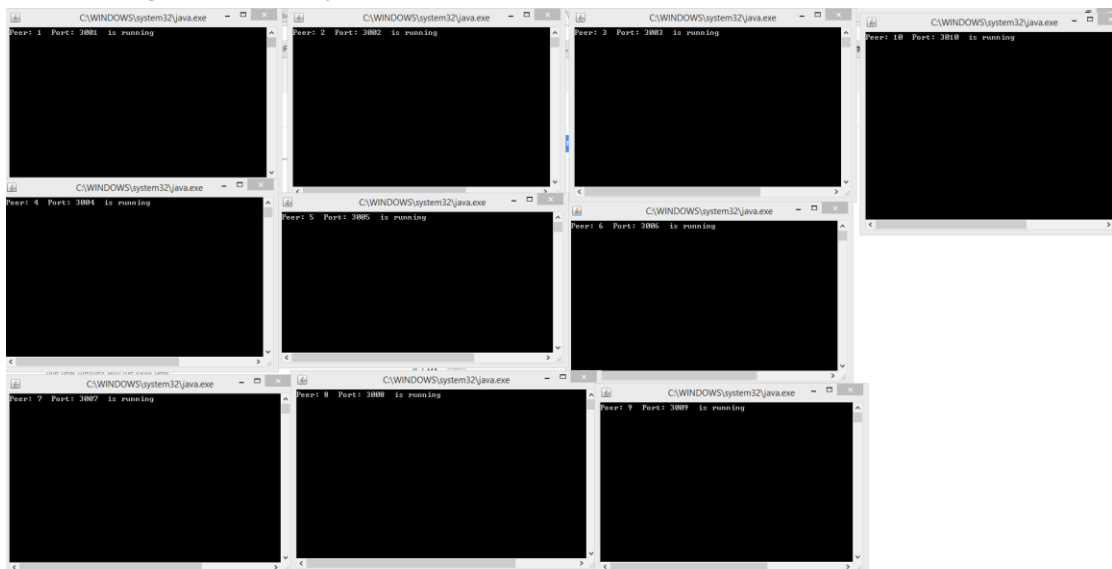
For star typology, enter CS550 PA2\Star, for 2D mesh typology enter CS550 PA2\Grid. You will see the following folders named as peer ids.

Name	Date modified	Type	Size
1	10/19/2014 8:28 PM	File folder	
2	10/19/2014 8:28 PM	File folder	
3	10/19/2014 8:28 PM	File folder	
4	10/19/2014 8:28 PM	File folder	
5	10/19/2014 8:28 PM	File folder	
6	10/19/2014 8:28 PM	File folder	
7	10/19/2014 8:28 PM	File folder	
8	10/19/2014 8:28 PM	File folder	
9	10/19/2014 8:28 PM	File folder	
10	10/19/2014 8:28 PM	File folder	

Then enter each peer's folder one by one, run "start.bat" to start each server.

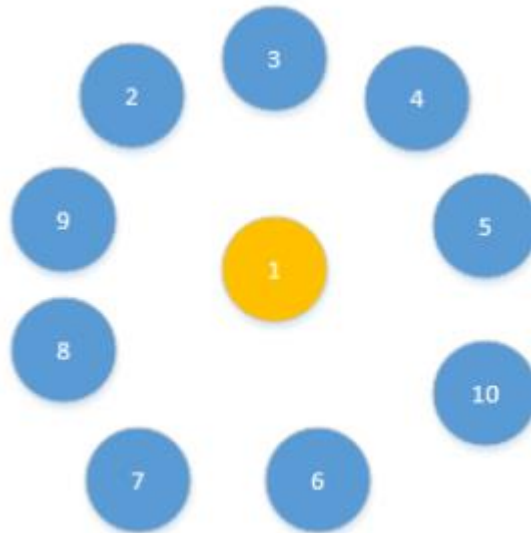
Name	Date modified	Type	Size
bin	10/19/2014 8:28 PM	File folder	
start	10/19/2014 6:03 PM	Windows Batch File	1 KB
startUser	10/19/2014 5:19 PM	Windows Batch File	1 KB

After running all the server, you will see this.



2. Star Topology

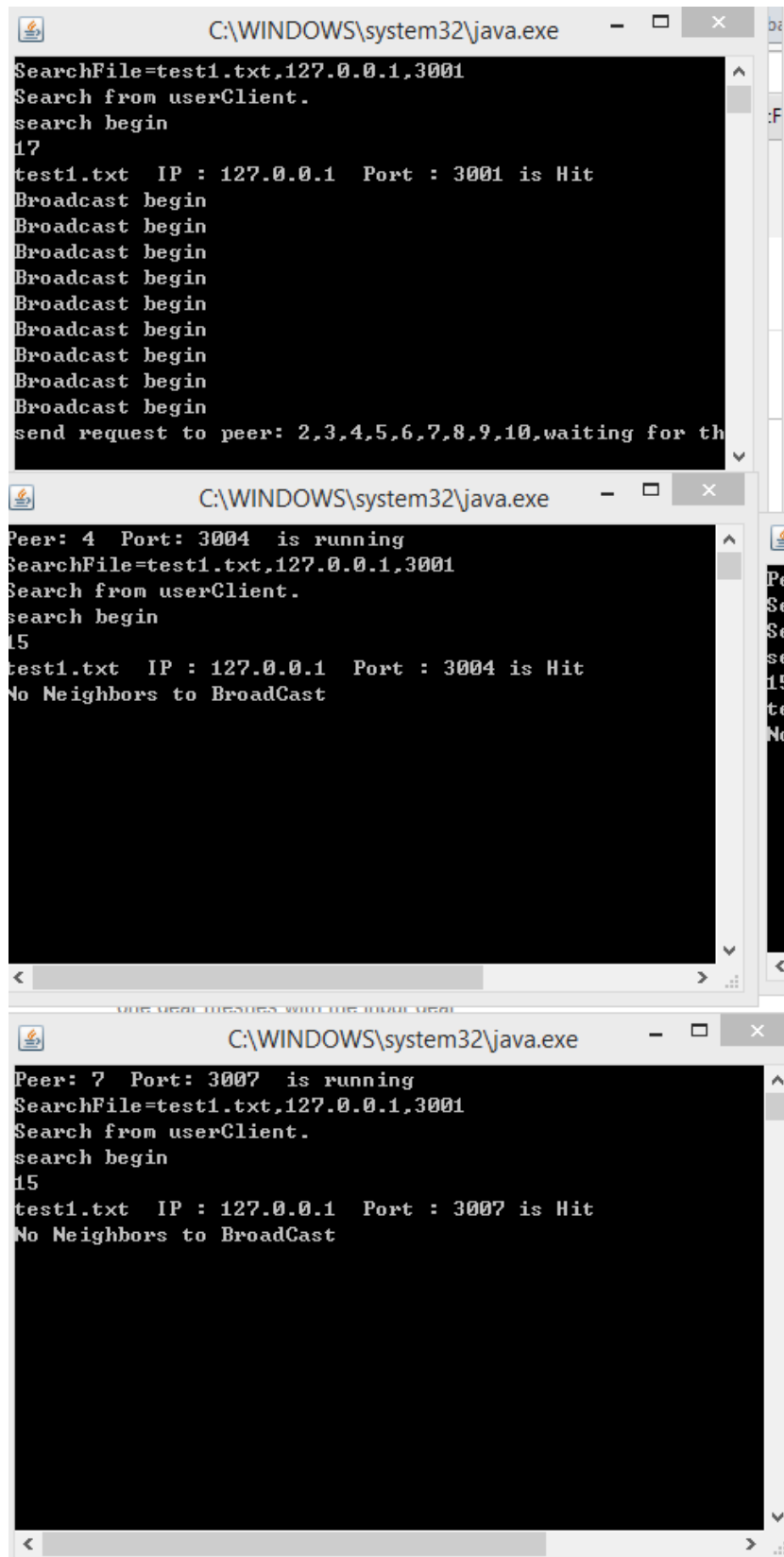
For star topology, we deployed 10 peers. Peer 1 to Peer 10.
We choose Peer1 as a client.



Search a file

Type "SearchFile" at client prompt, then type file name.

For example, type "test1.txt"(All peers have this file). The search result will show as below.



The image displays three separate Java command windows, each titled "C:\WINDOWS\system32\java.exe".

The top window shows the following output:

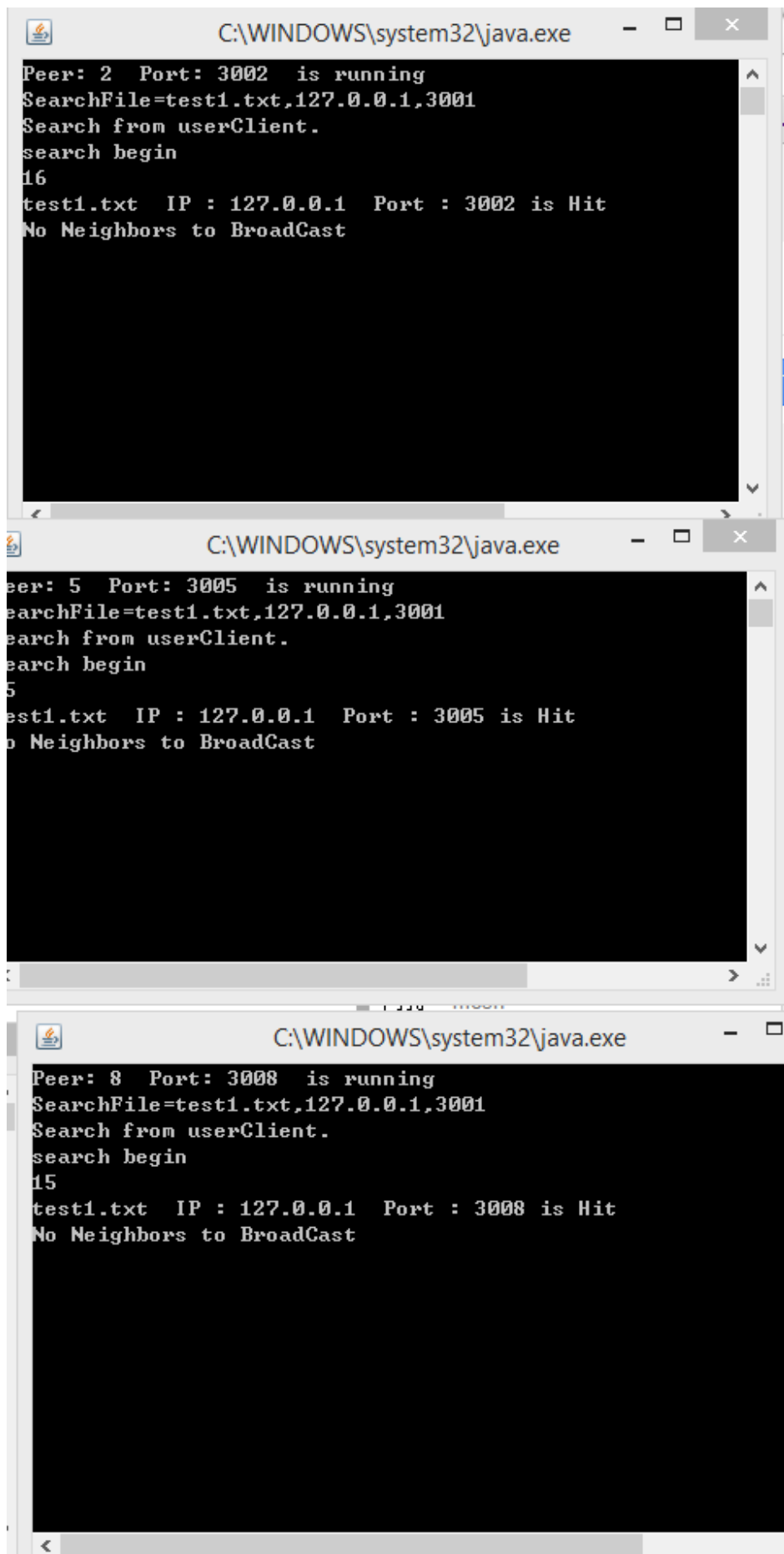
```
SearchFile=test1.txt,127.0.0.1,3001
Search from userClient.
search begin
17
test1.txt IP : 127.0.0.1 Port : 3001 is Hit
Broadcast begin
Broadcast begin
Broadcast begin
Broadcast begin
Broadcast begin
Broadcast begin
Broadcast begin
Broadcast begin
Broadcast begin
Broadcast begin
send request to peer: 2,3,4,5,6,7,8,9,10,waiting for th
```

The middle window shows the following output:

```
Peer: 4 Port: 3004 is running
SearchFile=test1.txt,127.0.0.1,3001
Search from userClient.
search begin
15
test1.txt IP : 127.0.0.1 Port : 3004 is Hit
No Neighbors to BroadCast
```

The bottom window shows the following output:

```
Peer: 7 Port: 3007 is running
SearchFile=test1.txt,127.0.0.1,3001
Search from userClient.
search begin
15
test1.txt IP : 127.0.0.1 Port : 3007 is Hit
No Neighbors to BroadCast
```

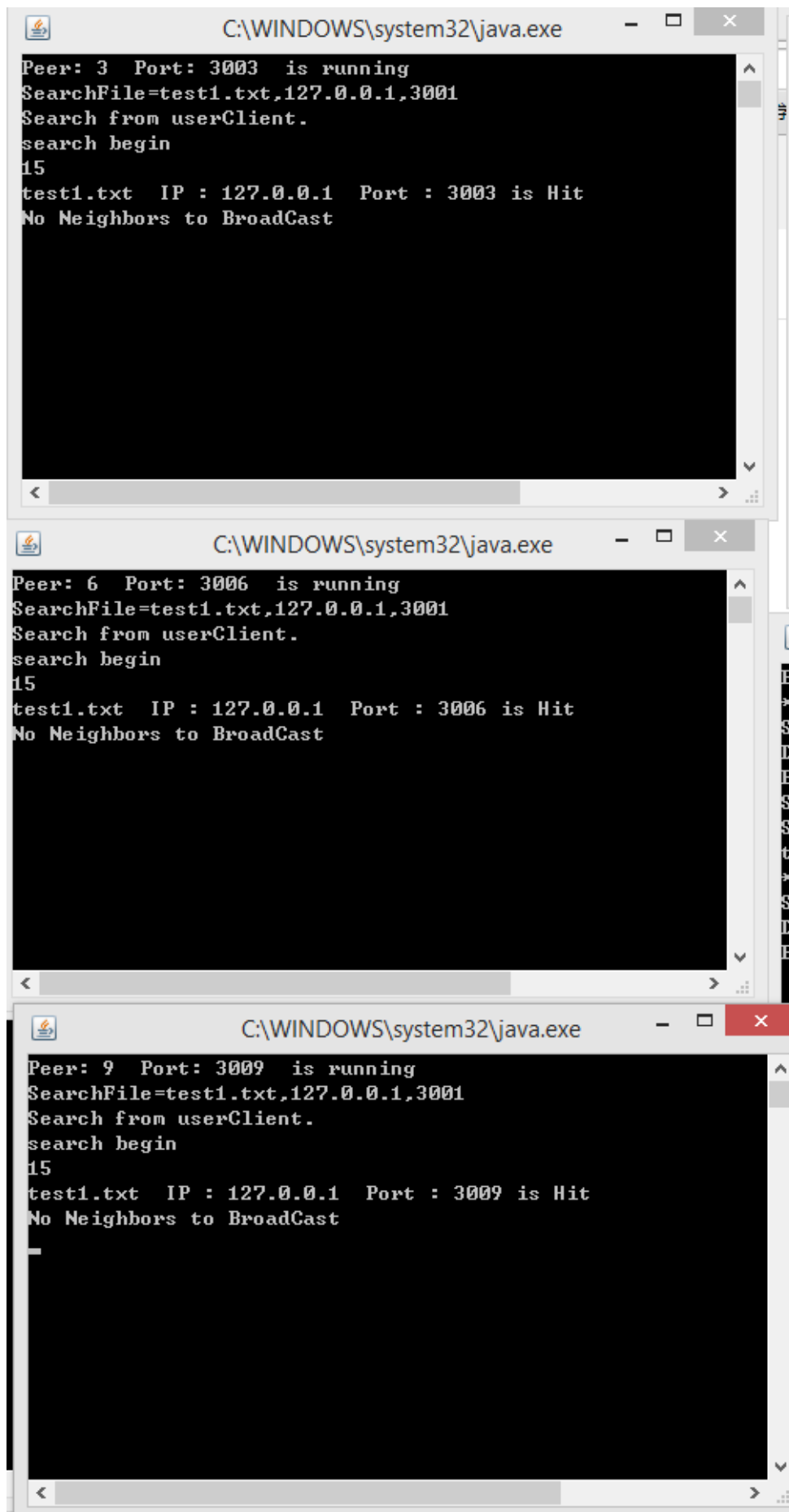


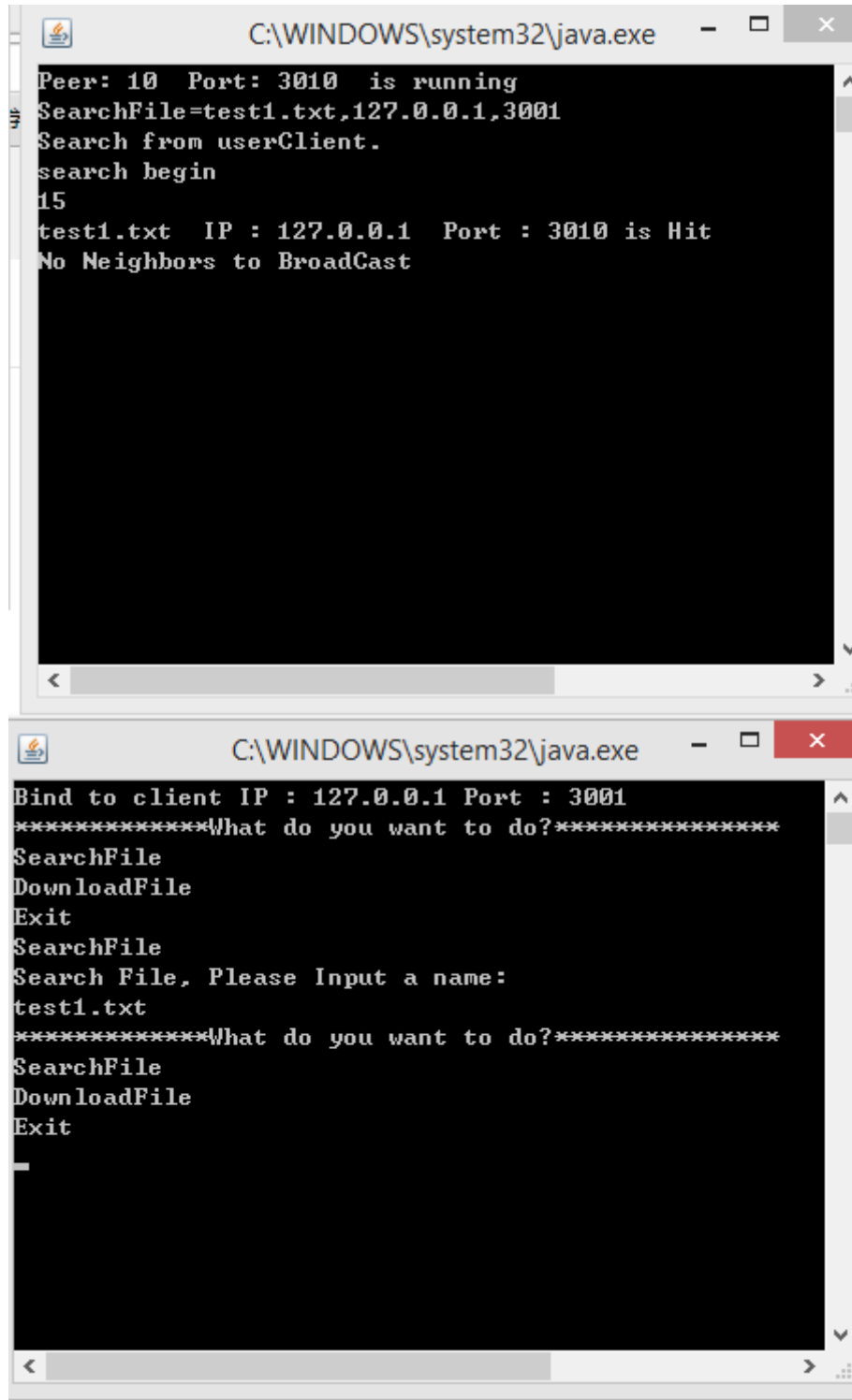
The image displays three overlapping Java console windows, each titled "C:\WINDOWS\system32\java.exe". Each window shows the output of a Java application performing a search for a file named "test1.txt" on the local machine (127.0.0.1). The output for each window is as follows:

```
Peer: 2 Port: 3002 is running
SearchFile=test1.txt,127.0.0.1,3001
Search from userClient.
search begin
16
test1.txt IP : 127.0.0.1 Port : 3002 is Hit
No Neighbors to BroadCast
```

```
Peer: 5 Port: 3005 is running
SearchFile=test1.txt,127.0.0.1,3001
Search from userClient.
search begin
5
test1.txt IP : 127.0.0.1 Port : 3005 is Hit
No Neighbors to BroadCast
```

```
Peer: 8 Port: 3008 is running
SearchFile=test1.txt,127.0.0.1,3001
Search from userClient.
search begin
15
test1.txt IP : 127.0.0.1 Port : 3008 is Hit
No Neighbors to BroadCast
```





The image displays two screenshots of a Windows command prompt window running a Java application. The title bar for both windows is 'C:\WINDOWS\system32\java.exe'.

The top window shows the following output:

```
Peer: 10 Port: 3010 is running
SearchFile=test1.txt,127.0.0.1,3001
Search from userClient.
search begin
15
test1.txt IP : 127.0.0.1 Port : 3010 is Hit
No Neighbors to BroadCast
```

The bottom window shows the following output:

```
Bind to client IP : 127.0.0.1 Port : 3001
*****What do you want to do?*****
SearchFile
DownloadFile
Exit
SearchFile
Search File, Please Input a name:
test1.txt
*****What do you want to do?*****
SearchFile
DownloadFile
Exit
```

In the window of Peer 1 we can see the message has been broadcasted to all its neighbors in multithread behavior: from peer 2 to peer 10. Then we can see each searching results hit or miss. For this file, all peers return hit.

Download a file

To download a file, simply type "DownloadFile" at the client prompt. Then input the file name, the ip address and the port number. For example, download "p3t1.txt" from peer3.

```
*****What do you want to do?*****
SearchFile
DownloadFile
Exit
DownloadFile
Search File, Please Input a filename:
p3t1.txt
Please Input IP address :
127.0.0.1
Please Input Port Number :
3003
```

Then the output will be:

Peer3 server upload the file:

```
UploadFile=p3t1.txt,127.0.0.1,3003
Uploading a File
Upload from IP : 127.0.0.1Port : 3001
15
3 is Uploading File: p3t1.txt
Uploading file to IP :127.0.0.1 Port : 3001
Upload Finished!
```

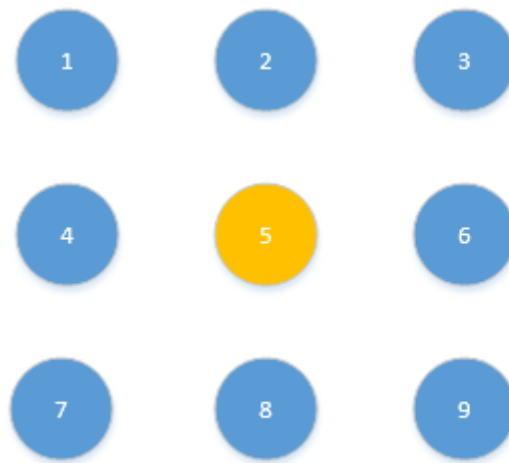
Peer1 server download the file:

```
C:\windows\system32\java.exe
Peer: 1 Port: 3001 is running
DownloadFile=p3t1.txt,127.0.0.1,3003
Download a File
Download from IP : 127.0.0.1Port : 3003
Download succeeded. File saved to C:\Users\fan Zhang\Downloads\CS550 PA2\Grid\1\b
in/p3t1.txt
```

We can find p3t1.txt was downloaded and in the Peer1's folder.

3. 2D-mesh Topology

For 2D-mesh topology, we deployed 9 peers, Peer1 to Peer 9.
We choose Peer 5 as a client.



Search a file

Type "SearchFile" at client prompt, then type file name. For example, type "p1t1.txt"(Peer1 has this file). The search result will show as below.

```
C:\WINDOWS\system32\java.exe
Peer: 1 Port: 3001 is running
SearchFile=p1t1.txt,127.0.0.1,3005
SearchFile=p1t1.txt,127.0.0.1,3005
Search from userClient.
search begin
15
p1t1.txt IP : 127.0.0.1 Port : 3001 is Hit
Broadcast begin
Search from userClient.
search begin
15
p1t1.txt IP : 127.0.0.1 Port : 3001 is Hit
No Neighbors to BroadCast
send request to peer: 4,waiting for the reponse...
```



```
C:\WINDOWS\system32\java.exe
Peer: 2 Port: 3002 is running
SearchFile=pit1.txt,127.0.0.1,3005
Search from userClient.
search begin
17
pit1.txt Port :127.0.0.1 Port : 3002 is Miss
Broadcast begin
Broadcast begin
send request to peer: 1,3,waiting for the reponse...
```

```
C:\WINDOWS\system32\java.exe
Peer: 3 Port: 3003 is running
SearchFile=pit1.txt,127.0.0.1,3005
SearchFile=pit1.txt,127.0.0.1,3005
Search from userClient.
search begin
16
pit1.txt Port :127.0.0.1 Port : 3003 is Miss
Broadcast begin
Search from userClient.
search begin
16
pit1.txt Port :127.0.0.1 Port : 3003 is Miss
No Neighbors to BroadCast
send request to peer: 6,waiting for the reponse...
```

```
C:\WINDOWS\system32\java.exe
Peer: 4 Port: 3004 is running
SearchFile=ptt1.txt,127.0.0.1,3005
Search from userClient.
search begin
16
ptt1.txt Port :127.0.0.1 Port : 3004 is Miss
Broadcast begin
Broadcast begin
send request to peer: 1,7,waiting for the reponse...
SearchFile=ptt1.txt,127.0.0.1,3005
Search from userClient.
search begin
16
ptt1.txt Port :127.0.0.1 Port : 3004 is Miss
Broadcast begin
send request to peer: 7,waiting for the reponse...
```

```
C:\WINDOWS\system32\java.exe
Peer: 5 Port: 3005 is running
SearchFile=ptt1.txt,127.0.0.1,3005
Search from userClient.
search begin
16
ptt1.txt Port :127.0.0.1 Port : 3005 is Miss
Broadcast begin
Broadcast begin
Broadcast begin
Broadcast begin
send request to peer: 2,4,6,8,waiting for the reponse...
```

```
C:\WINDOWS\system32\java.exe
Peer: 6 Port: 3006 is running
SearchFile=p1t1.txt,127.0.0.1,3005
Search from userClient.
search begin
16
p1t1.txt Port :127.0.0.1 Port : 3006 is Miss
Broadcast begin
Broadcast begin
send request to peer: 3,9,waiting for the reponse...
SearchFile=p1t1.txt,127.0.0.1,3005
Search from userClient.
search begin
16
p1t1.txt Port :127.0.0.1 Port : 3006 is Miss
Broadcast begin
send request to peer: 9,waiting for the reponse...
-
```

```
C:\WINDOWS\system32\java.exe
Peer: 7 Port: 3007 is running
SearchFile=p1t1.txt,127.0.0.1,3005
SearchFile=p1t1.txt,127.0.0.1,3005
Search from userClient.
search begin
15
p1t1.txt Port :127.0.0.1 Port : 3007 is Miss
Broadcast begin
Search from userClient.
search begin
15
p1t1.txt Port :127.0.0.1 Port : 3007 is Miss
send request to peer: 8,waiting for the reponse...
No Neighbors to BroadCast
SearchFile=p1t1.txt,127.0.0.1,3005
Search from userClient.
search begin
15
p1t1.txt Port :127.0.0.1 Port : 3007 is Miss
No Neighbors to BroadCast
```

```
C:\WINDOWS\system32\java.exe
Peer: 8 Port: 3008 is running
SearchFile=ptt1.txt,127.0.0.1,3005
Search from userClient.
search begin
16
ptt1.txt Port :127.0.0.1 Port : 3008 is Miss
Broadcast begin
Broadcast begin
send request to peer: 7,9,waiting for the reponse...
SearchFile=ptt1.txt,127.0.0.1,3005
SearchFile=ptt1.txt,127.0.0.1,3005
Search from userClient.
search begin
16
ptt1.txt Port :127.0.0.1 Port : 3008 is Miss
Broadcast begin
Search from userClient.
search begin
16
ptt1.txt Port :127.0.0.1 Port : 3008 is Miss
No Neighbors to BroadCast
send request to peer: 9,waiting for the reponse...
```

```
C:\WINDOWS\system32\java.exe
Peer: 9 Port: 3009 is running
SearchFile=ptt1.txt,127.0.0.1,3005
SearchFile=ptt1.txt,127.0.0.1,3005
Search from userClient.
search begin
16
ptt1.txt Port :127.0.0.1 Port : 3009 is Miss
Broadcast begin
Search from userClient.
search begin
16
ptt1.txt Port :127.0.0.1 Port : 3009 is Miss
No Neighbors to BroadCast
send request to peer: 8,waiting for the reponse...
SearchFile=ptt1.txt,127.0.0.1,3005
SearchFile=ptt1.txt,127.0.0.1,3005
Search from userClient.
search begin
16
ptt1.txt Port :127.0.0.1 Port : 3009 is Miss
No Neighbors to BroadCast
Search from userClient.
search begin
16
ptt1.txt Port :127.0.0.1 Port : 3009 is Miss
No Neighbors to BroadCast
```

From these outputs, we can see that our client server Peer 5 first broadcast the search message to its neighbor 2, 4, 6, 8.

Then peer 2 sent the message to 1, 3

Peer 1 sent the message to 4

Peer 3 sent the message to 6

Peer 4 sent the message to 7

Peer 6 sent the message to 9

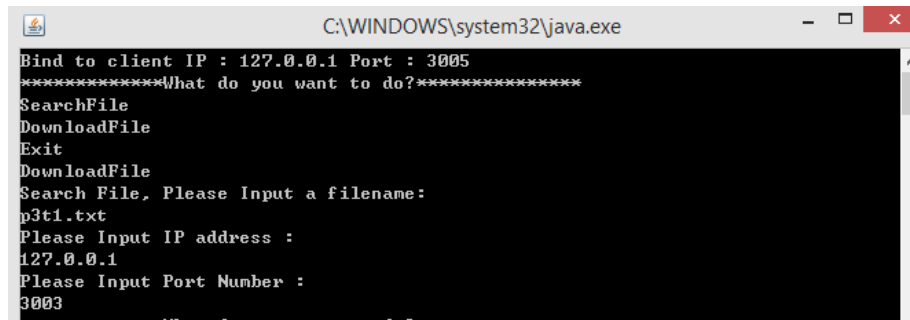
Peer 7 sent the message to 8

Peer 8 sent the message to 9

After the search, only peer 1 get the hit since the file is in peer1.

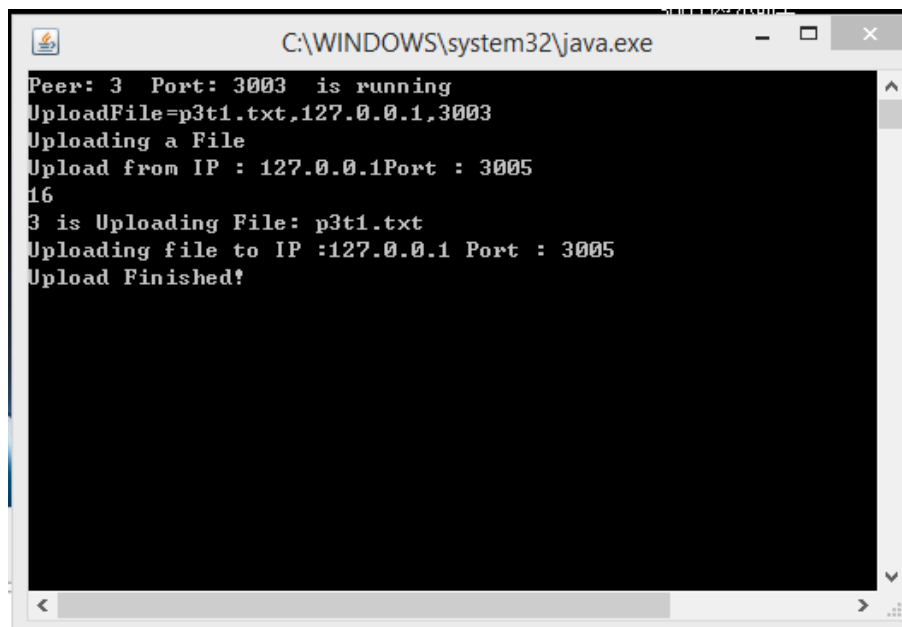
Download a file

To download a file, simply type "DownloadFile" at the client prompt. Then input the file name, the ip address and the port number. For example, download "p3t1.txt" from peer3 to peer 5.



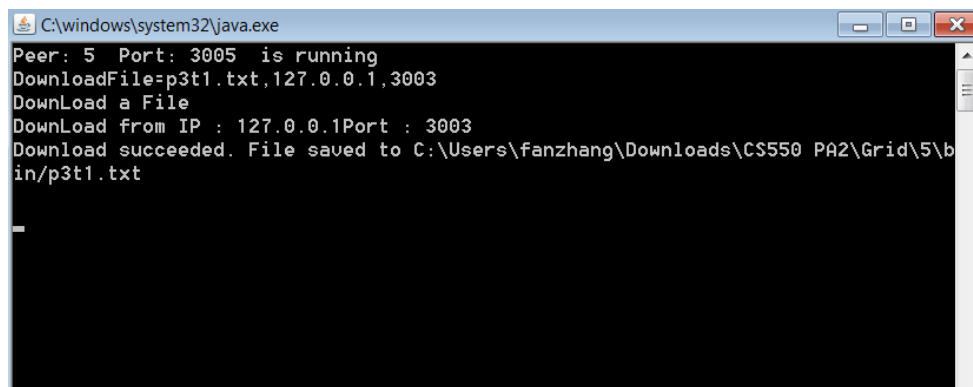
```
C:\WINDOWS\system32\java.exe
Bind to client IP : 127.0.0.1 Port : 3005
*****What do you want to do?*****
SearchFile
DownloadFile
Exit
DownloadFile
Search File, Please Input a filename:
p3t1.txt
Please Input IP address :
127.0.0.1
Please Input Port Number :
3003
```

The Peer 3 will upload the file:



```
C:\WINDOWS\system32\java.exe
Peer: 3 Port: 3003 is running
UploadFile=p3t1.txt,127.0.0.1,3003
Uploading a File
Upload from IP : 127.0.0.1Port : 3005
16
3 is Uploading File: p3t1.txt
Uploading file to IP :127.0.0.1 Port : 3005
Upload Finished!
```

Then the peer 5 successfully download the file



```
C:\windows\system32\java.exe
Peer: 5 Port: 3005 is running
DownloadFile=p3t1.txt,127.0.0.1,3003
DownLoad a File
DownLoad from IP : 127.0.0.1Port : 3003
Download succeeded. File saved to C:\Users\fan Zhang\Downloads\CS550 PA2\Grid\5\bin/p3t1.txt
```

We can find that p3t1.txt was downloaded and in the Peer5's folder.