Verification

Preparation

Start IndexServer and 3 Peers. (Peer1: port 1001, Perr2: port 1002, Peer3: port 1003.

Test lookup and download

We choose Peer 1 to begin with, and input the commands step by step.

1. Choose option: 2 with file name: k.txt.

```
2
Please enter the file name:
k.txt
The avg time for 1000 sequence lookup is: 0.972 ms

There are all address of the peers keeping file k.txt:
1. rmi://127.0.1.3:1003/Peer
2. rmi://127.0.1.2:1002/Peer

You can choose one to download the file: (Or you can enter 0 to cancel)
```

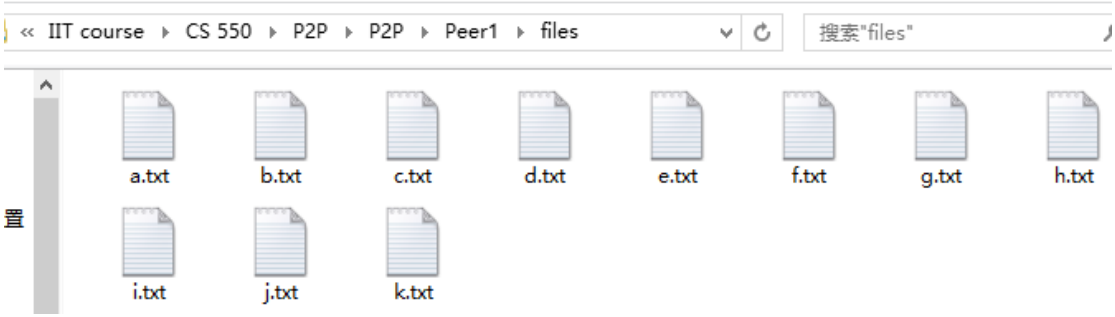
The output shows Peer2 and Peer3 keep this file, which is the right situation.

2. Choose option: 2 (to down load from peer 2)

The output is:

```
You can choose one to download the file: (Or you can enter 0 to cancel)
2
The file k.txt has been saved in the path: files/ Successfully.
The download speed is 0.829 MB/s
```

And we can check the file direction in Peer 1:



It contains k.txt now and the size and content is right.

3. Choose menu option 2 with file name k.txt to lookup again:

```
Please select a option number:
2
Please enter the file name:
k.txt
The avg time for 1 sequence lookup is: 3.286 ms

There are all address of the peers keeping file k.txt:
1. rmi://127.0.1.1:1001/Peer
2. rmi://127.0.1.3:1003/Peer
3. rmi://127.0.1.2:1002/Peer
```

Now we can see the Peer 1 registry k.txt on Index Server correctly.
Overall, we verify that the lookup and download is correct.

Delete a file from Peer directory

1. From example, we delete a.txt from Peer 1(port 1001)
2. We lookup a.txt:

```
Please select a option number:
2
Please enter the file name:
a.txt
The avg time for 1 sequence lookup is: 2.299 ms

Warning: No peer keep this file. Please try another.
```

Only Peer 1 keep a.txt before, so now it should not exist in any peers. Therefore, combine with download test, we verified the auto-registry function.

Set a timer with lookup

1. Select option: 3
2. Input the timer in format, for example: 8 30 00.
3. Input a file name, for example: b.txt

```
Please select a option number:
3
Please input the timer in format HH MM SS (ex. 11 30 00 means 11:30:00)
8 30 00
Please enter the searching file name:
b.txt
You create a lookup task for b.txt
It will start at Mon Jan 30 08:30:00 CST 2017
```

It will show that the task will start at today's 08:30:00 (the millisecond is 000).
When reaching the time, the task will automatically start successfully:

```
Timer for execting lookup b.txt start!
The avg time for 1000 sequence lookup is: 1.958 ms
```

Exit Peer

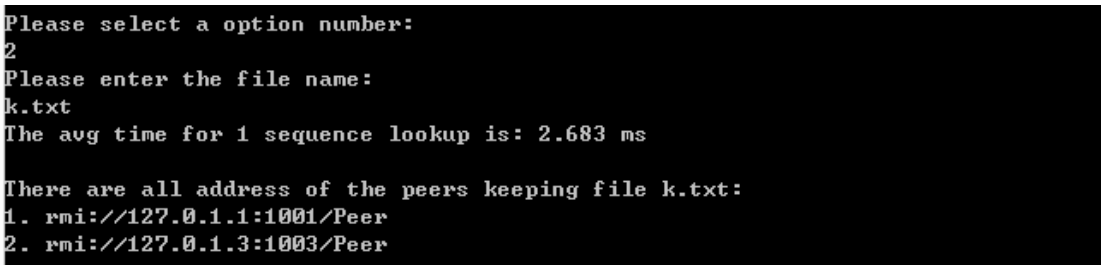
1. For example, we exit Peer 2 which keep k.txt.

```
Please select a option number:
4
Register Monitor: sleep interrupted
Peer (rmi://127.0.1.1:1001/Peer) is exitting...
```

The IndexServer output:

```
Peer with IP: "rmi://127.0.1.2:1002/Peer" request registering.
Peer with IP: "rmi://127.0.1.2:1002/Peer" exit.
```

2. We lookup k.txt:



Only Peer1 and Peer3 keep this file, which means the Peer2 successfully unregister in Index Server.