CS 485 PA3

UIC Fall 24'

Output File

Mira Sweis – ECE MS

At startup you will see the following output: Chose between linear and all to all topologies. Choose between push and pull mode.

```
PS C:\Users\mello\Documents\VSCode\CS485_PA3> python network_setup.py
Input either "all_to_all.json" or "linear.json": linear.json
Input mode: push or pull: push
```

Then after running: You will see all supeerpeers started and running.

```
Starting network with a Linear Topology

Super-peer SP7 server started on port 7007
Super-peer SP2 server started on port 7002
Super-peer SP3 server started on port 7003
Super-peer SP1 server started on port 7001
Super-peer SP8 server started on port 7008
Super-peer SP4 server started on port 7004
Super-peer SP5 server started on port 7005
Super-peer SP9 server started on port 7009
Super-peer SP6 server started on port 7006
Network initialized with super-peers and leaf nodes.
Super-peer SP10 server started on port 7010
Run each leaf node in a separate terminal to initiate queries.
```

Now for leaf nodes. Open a separate terminal:

```
Starting leaf node L1
Leaf-node L1 server started on port 6001 in push mode
Leaf-node L1 registered its files with super-peer at port 7001.
Enter a command (query [filename], edit [filename] [text], or exit):
```

When querying a file, and there is a query hit:

```
QueryHit! Leaf-node L2 found 'file1.txt' on the following leaf nodes:
1 - Leaf-node L1
2 - Leaf-node L7
3 - Leaf-node L10
Select a Leaf Node to download from (e.g. 1, 2, 3):
```

When retrieving a file from a leafnode you will see the following:

```
Leaf-node L2 attempting to retrieve 'file1.txt' from Leaf-node L1
Target port: 6001
Response from leaf node: Sending file file1.txt to L2
Leaf-node L2 successfully downloaded 'file1.txt' from Leaf-node L1.
Leaf-node L2 registered its files with super-peer at port 7002.
Query for 'file1.txt' took 0.0040 seconds.
Enter a command (query [filename], edit [filename] [text], or exit):
```

When sending a file you will see the following:

```
Leaf-node L1 registered its files with super-peer at port 7001.
Enter a command (query [filename], edit [filename] [text], or exit): Leaf-node L1 sent 'file1.txt' to Leaf-node L2
```

In Push Mode:

When editing a file you will run the edit command, and then will see the following from the master copy leaf node:

```
edit file1.txt sometextsttsfstdftsfdtsd
Editing file: file1.txt
File file1.txt has been updated. Version is now 2.

Leaf-node L1 pushed invalidation for file1.txt.

Enter a command (query [filename], edit [filename] [text], or exit):
```

Any leaf node with a copy will see the following results:

```
Enter a command (query [filename], edit [filename] [text], or exit): In handle invallidation
Leaf-node L2 discarded invalid file file1.txt.
Leaf-node L2 deregistered file1.txt.
```

You will then see there is no more copies of the file. You can then redownload it by querying the same file again.

You can also to attempt to edit a file that is not your master copy, and will get the following output:

```
Enter a command (query [filename], edit [filename] [text], or exit): edit file1.txt dddd
You can not edit this file, it is not a master copy.
```

For Pull Mode:

Leaf nodes will query files and get the following response if unchanged:

```
Enter a command (query [filename], edit [filename] [t
File file1.txt is up-to-date. No action needed.
```

If changed at mastercopy:

```
edit file1.txt ddd
Editing file: file1.txt
File file1.txt has been updated. Version is now 2.
```

The resulting leaf node will have this:

```
File file1.txt is up-to-date. No action needed.
File file1.txt is stale. Invalidating locally.
Leaf-node L2 discarded invalid file file1.txt.
Leaf-node L2 registered its files with super-peer at port 7002.
Leaf-node L2 deregistered file1.txt.
```