DISTRIBUTED OPERATING SYSTEM PRINCIPLES
PROJECT 3
(README)

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What is Working:

Implementation:

The following methods were implemented based on the pseudo code provided in the paper (https://pdos.csail.mit.edu/papers/ton:chord/ paper-ton.pdf), createnodes, fix_fingers, fingertable, closestnodes. Hash table was generated after nodes creatation with hash value and process ids respectively. This utilizes closestnode to find nearest hash neighbors also using the fingertable as mentioned in the paper. A message is sent to each node to make 10 requests per second to find key in logarithmic time.

Termination: The code terminates once all the nodes have completed requests. It also tracks the number of hops each node makes and prints the average number of hops for the given number of nodes.

Compilation and Execution:

1. Extract the zip file.
2. cd to project3 directory.
3. Open the `erl` shell in this directory
4. Compile the code file:
    a. c(chord).
5. On the Server Machine, start the server with
    a. chord:startChord(NumberOfNodes,NumberOfRequests)

Output:

```
6> c(chord).
{ok,chord}
7> chord:startChord(10000,10).
Nodes Created!
ok
8>
Finished. Requests sent by all nodes.
Average Hops:6.2445938778981915
```

Largest Output:

The largest network found was of 100000 nodes with 7.9average hops.

```
9> chord:startChord(100000,10).
Nodes Created!
ok
10>
Finished. Requests sent by all nodes.
Average Hops:7.9030672034698055
10>
```