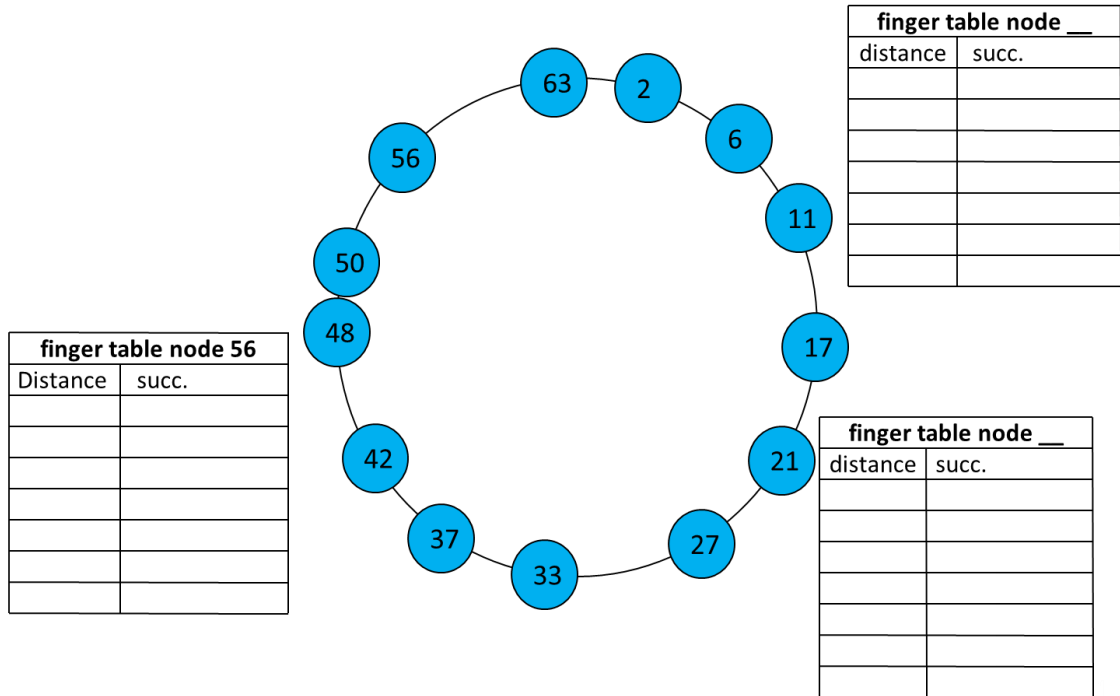


**25. P2P - Chord**

1. Consider the Chord ring below, which uses a 6-bit address space. What is the number of messages exchanged for a lookup in the best case and in the worst case?
2. Perform a lookup for a data item with hash 22 from Node 56. Fill the finger tables below for all nodes visited during this request.



3. Assume that a node with ID 57 joins the above Chord ring. Show how the stabilization protocol converges to the correct finger tables for Node 57 and Node 56.
4. Assume that Node 63 shuts down. Show how the stabilization protocol leads to correct finger tables for Node 56.
5. What is the complexity of a full-text-query (e.g. >All files whose name contains "Matrix\*"<) in Chord?