

```

1 class ChordNode:
2
3     def __succNode(self, key):
4         if (key <= self.nodeSet[0] or
5             key > self.nodeSet[len(self.nodeSet)-1]): # key is in segment for which
6             return self.nodeSet[0] # this node is responsible
7         for i in range(1,len(self.nodeSet)):
8             if (key <= self.nodeSet[i]): # key is in segment for which
9                 return self.nodeSet[i] # node (i+1) may be responsible
10
11     def __finger(self, i):
12         return self.__succNode((self.nodeID + pow(2,i-1)) % self.MAXPROC) # succ(p+2^(i-1))
13
14     def __recomputeFingerTable(self):
15         self.FT[0] = self.nodeSet[(self.nodeInd - 1)%len(self.nodeSet)] # Predecessor
16         self.FT[1:] = [self.__finger(i) for i in range(1,self.nBits+1)] # Successors
17         self.FT.append(self.nodeID) # This node
18
19     def __localSuccNode(self, key):
20         if self.__inbetween(key, self.FT[0]+1, self.nodeID+1): # key in (pred,self]
21             return self.nodeID # this node is responsible
22         elif self.__inbetween(key, self.nodeID+1, self.FT[1]): # key in (self,FT[1]]
23             return self.FT[1] # successor responsible
24         for i in range(1, self.nBits+2): # go through rest of FT
25             if self.__inbetween(key, self.FT[i], self.FT[(i+1)]): # key in [FT[i],FT[i+1]]
26                 return self.FT[i] # FT[i] is responsible

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