

Exercise No. 3
Peer-To-Peer Networks
Summer 2008

Exercise 5 *Chord*

Show that an interval on the Chord ring of size $c \cdot \frac{2^m}{n} \log n$ contains at least one node with high probability $1 - n^{-c}$ (c constant, n number of nodes, 2^m size of the ring).

Exercise 6 *DHash++*

DHash++ uses node samples in its proximity neighbor selection (PNS). Given n nodes randomly distributed in a square and the sample size m . What is a node's smallest distance to a node in the random sample with high probability? You can use the L_1 -norm.