

Exercise No. 3
Peer-To-Peer Networks
Winter 2012/2013

Exercise 1 *Koorde*

In a Koorde network of address space $m = 128$ populated by 16 nodes each with a different prefixes of length 4. Show how a lookup from the peer with the prefix 10101010... works by giving the trail! Lookup the peers owning the following prefixes:

- 10110000...
- 00001111...
- 01010101...

Exercise 2 *Distance Halving*

The out-degree of the continuous graph in Distance Halving is two. Devise your own version of Distance Halving, that increases the search speed by factor two by increasing the out-degree and give a routing algorithm.

Exercise 3 *Skip-Graph*

Alter the base of the addresses in Skip-Graph from binary to hexadecimal. Analyse the resulting

- diameter,
- search speed, and
- longest common prefix of the num-ID.