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.