

Exercise No. 5  
**Peer-To-Peer Networks**  
Summer 2010

**Exercise 1** Consider peers with the following identification bits:

**0023**

0113

0133

0322

1002

1010

**1132**

1223

2000

2112

**2210**

2231

1. Illustrate the Pastry network with  $M = \emptyset$  and  $\ell = 4$  for  $b = 2$  and  $B = 4$ . Do so by specifying the neighborhood of the nodes 0023, 1132, and 2210.
2. Insert a new node with id 3131 to the network. Update the neighborhood of the nodes you considered in the above task and give the neighbored nodes for the new node. Assume that the new node contacted node 0023 to join the network.