Lab : P2P Applications

1. OBJECTIVES

Learn and apply some basic concepts of P2P overlays.
The basic underlying technology we will use is message queues and RabbitMQ

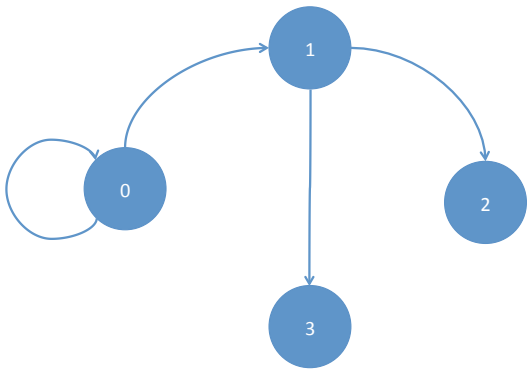
2. DESCRIPTION

I. Create a ring overlay

- Write a program that creates a network of nodes from a neighbor matrix description.

For example, given the matrix, we obtain the following network.

0	0	1	2	3
0	1	1		
1			1	1
2				
3				



- Write a program that establishes a ring overlay over a given graph network. This means that each node should be aware which node is its successor and predecessor and should be able to send a msg to them using a simple API.
  - Each node should implement the functions
    int pred()
    int succ()
    void sndMsg(Message M) : sends to the successor.
    The actual message transmission should use the “physical” links.
    Message recvMsg() : receives a message from its successor

II. Implement basic Chord

- Implement the algorithms for joining a Chord ring, inserting an object and looking for an object.