

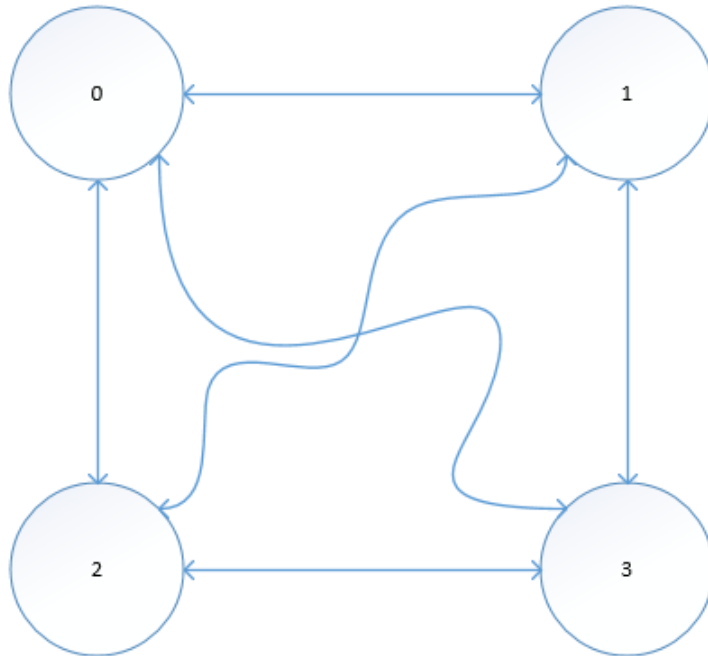
Distributed Artificial Intelligence and Intelligent Agents Homework 1

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1 Introduction

The goal of this project is to implement a distributed key-value store with many freedoms given at hand like the structure, replication algorithm and factor and much more. We chose a full graph network e.g. if $n = 4$ then K_4 (in graph theory terms).



2 Enter the matrix

The execution with **3 Nodes**, Node with 0 id is the always the initial leader:

```
INFO {Node} [0]: Got JOIN message from ID: [1]
INFO {Node} [0]: Got JOIN message from ID: [2]
INFO {Node} [1]: Got VIEW message from ID: [0] (0 1)
INFO {Node} [1]: Got VIEW message from ID: [0] (0 1 2)
INFO {Node} [2]: Got VIEW message from ID: [0] (0 1 2)
```

3 Configuration

Since our network is a virtual one, we don't have to define multiple port numbers and IP addresses. Below is a concrete example of how it might look:

```
network {
  node {
    host = "127.0.0.1"
    port = 34567
  }
  grid {
    num = 3 # Size of the network, has to be at least 3
  }
}
```

4 References

- <http://www.slideshare.net/WayneJonesJnr/chapter-16-distributed-system-structures-1314596>
- <http://blog.fourthbit.com/2015/04/12/building-a-distributed-fault-tolerant-key-value-store>