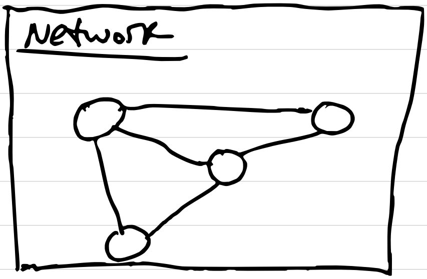
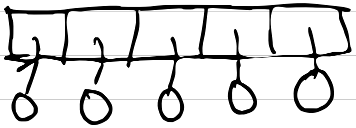
Final Project



read in file to get # of nodes, save them in the Network



each Node is a Computer
- should have statistics that can be reported

also need a Message that has a start computer and destination computer
- should also have statistics

edges are one way paths.
weights of edges are the queue at destination

each computer is SSQ model w/ FIFO queue

each Node should read in their own data from the file [0, N-1]

edge's are read using comma spacing
e1, e2, e3

meaning Node i is connected to node 1, 2, 3 by directed edges

Object structure

Computer

pointers to connected edges
service queue
isAvailable
service time distribution
All EA and EM for SSSQ
Get Q size()

ReportStatistics()
- Avg Processing time
- efficiency

Message

Computer source
Computer destination
Time creationTime
Time dest.Time
Time waitTime
int numWaits
ReportStatistics()
- avg communication time (source to dest.)
- avg wait time

Network

list of computers
ReadFile(filename)

int GetNodeQueueSize(Computer toGet)

FIFO Queue

standard FIFO LL

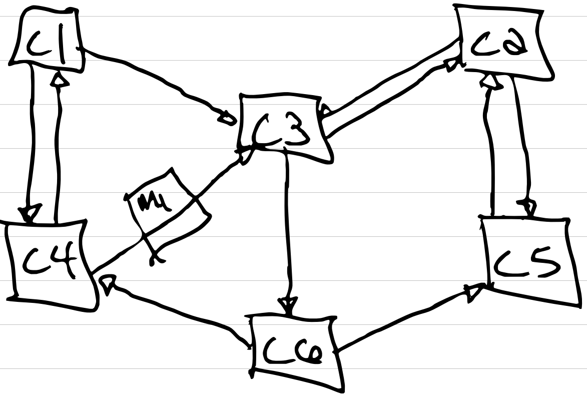
Statistics
- average size
- Maximum size
- average wait time

ReportStatistics()

Execution Architecture

Network

- read file, instantiate all computers



ex: C4 creates message, dest. is C5.

- apply static path finding algorithm
- or apply dynamic pathfinding algorithm

Pathfinding Algorithms

1.) shortest path algorithm. → dijkstras algorithm
- static
- assume all weights are 1.

2.) queuelength weighted algorithm
- dynamic
- computed at each computer before leaving to next
- edge weights equal the destination queue lengths