Exercise 6

a) Design a graph representation for queues. Describe informally the node types, edge types, and topology of the queue graphs. Give examples: empty queue, queue of length 1, queue of length > 1.

b) Define graph tests, graph rewrite rules, and transactions operating on queues. Queues should offer the following operations:
   - newqueue: creates a new, i.e., empty queue
   - isempty: checks whether the queue is empty
   - enqueue: adds a number to the tail of the queue
   - dequeue: removes a number from the head of the queue
   - head: returns the number at the head of the queue (i.e., the next number to be dequeued)
   - tail: returns the number at the tail of the queue (i.e., the last number which was enqueued)