# Documentation printerqueue

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## Systemdescriptions

**Printer {**

  enqueue()

  Adds a new Node to the printerqueue (see **LinkedList.enqueue**).

  dequeue()

  Removes the first Node from the printerqueue (see **LinkedList.dequeue**).

  isEmpty()

  Returns true if the printerqueue is empty and false if it is not.

  size()

  Returns the size of the printerqueue i.e. the number of messages that are queued.

  startPrinter(boolean printAll)

  Retrieves data from the Nodes in the LinkedList with LinkedList.getNextData(). If printAll is true then print all messages in the queue with a delay of 2000milliseconds between each printing to simulate a real printer else print only the first message. After printing the message gets dequeued so that it disappears from the printerqueue **dequeue()**.

**}**

**LinkedList {**

  enqueue()

  Adds a new Node to the end of the list. If the list is empty also set the new Node as the first.

  enqueueFirst()

  Adds a new Node to the start of the list. If the list is empty also set the new Node as the first.

  dequeue()

  Removes the first Node in the list

  dequeueLast()

  Remove the last Node in the list and make the second to last Node the last.

getNextData()

>   Retrieves the first Nodes data and returns it. Paired with the **dequeue()** this can be used to "iterate" through the list by removing the first Node and changing it to the next one.

IsEmpty()

>   Return true if the list is empty and false if it isn't.

purge()

>   Utilizes Java's garbage collection to empty the list. Set the pointers to first and last Node to null and let garbarage collection remove the other Nodes from memory.

size()

>   Iterates through the list and returns the number of Nodes.

**}**

# Tests

## Test 1, Printer (enqueue, dequeue, size, isEmpty)

enqueue("Hello")
size()
enqueue("There")
enqueue("Magnus")
size()
enqueue("Anton")
isEmpty()
dequeue()
startPrinter(true)

**Result:**
1
3
false
Hello
There
Magnus

## Test 2, LinkedList (enqueueFirst)

enqueue("a")
enqueueFirst("b")
enqueue("c")

enqueueFirst("d")
startPrinter(true)

**Result:**
d
b
a
c

## Test 3, LinkedList (Purge)

enqueue("a")
enqueue("c")
enqueue("b")
size()
purge()
size()

**Result:**
3
0