CS 2003 — Problem Set 5

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1. **Notation:** "x" is the node to insert.

1: **function** CICULAR LINKED LIST INSERT
2:     **if** head != null **then**
3:         **x = head**
4:         **if** tail.next == null **then**
5:             **x = tail.next;**
6:
7:     **if** k > A[mid] **then**
8:         low ← mid+1
9:     **else if** k < A[mid] **then**
10:         high ← mid-1
11:     **else**
12:         **System.out.print(mid);**
13:     The runtime of this algorithm is: ***O(nlgn)***

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2. **Comparing and Contrasting time complexities**
   Reference Based
   insert
   delete
   search

   Array based
   insert
   delete
   search

3.