# Module IN2002—Data Structures and Algorithms
# Exercise Sheet 5

1. Work out (using pictures) what the following procedure does on circular lists:

```
public void modify(CList list) {
     if (! isEmpty()) {
          Node tmp = tail.next;
          tail.next = tail.next.next;
          tmp.next = tmp;
     }
}
```

Consider the cases where the list has more than one node, only one node, or no nodes.

2. Write functions that return the maximum of the numbers of (where the info in each node is a number):

a) a circular list
b) a doubly linked list

3. Write a procedure to swap the first two nodes of a doubly linked list.
Have you covered all the cases?

**And a bit of programming. You are not expected to tackle this during the tutorial slot, but at some later time, at your own convenience.**

4. Write a program that takes as input two ordered circular lists and produces a third ordered circular list containing the elements from both of the input lists.