Assignment 2
ES 103
Term 1, 2015-16

Due: Tues, Aug 18, 2015 (submitted in LMS *before* the afternoon lecture)

Write a C++ program for the following. Submit all the files (including .h files) that make up your program.

A mechanic at a service center works on repair requests coming in from customers. In each time slot, he can either register a new request, or work on (and complete) an existing request. When he gets a new request, he adds it to a pile of existing requests. If there is no incoming request in a particular time slot, he uses that time to pick up and complete the most recent request. At the end of the day he picks up and completes all pending tasks, again most recent request first.

The front desk receives requests from consumers and passes them on to the mechanic. If there are no new requests, or if it is the end of the day, the front desk informs the mechanic appropriately. For simplicity, we assume each task is specified by an integer.

We model the arrival of requests with a file which the front desk reads as input. The first character of each line of the file indicates if there is a new request (R) , no request (N) , or end of day (E). Specifically, the file contains a series of lines, each of which has one of the following:

R <int n>
N
E

R <int n> means there is a new request with id n.
N means there was no request in the current time slot
E means "end of day" and there are no further entries in the file.

Based on the input, the front desk sends an appropriate message to the mechanic : new request (with the id), no request, or end-of-day.

Model this as a set of co-operating tasks. You should have *at least* 2 objects – the Mechanic and the FrontDesk. Define and use other objects to improve modularity and encapsulation of the code.

The program should print out the id of the tasks in the order they were performed by the mechanic.

Sample input file data:

```
R 15
R 21
N
N
N
R 92
R 401
R 827
N
N
R 82
R 910
E
```