


Advanced Programming COEN 11

Lab 7


SCHOOL OF ENGINEERING



Lab 7

- Restaurant Reservations
- Waiting List with File I/O
 - Extension of lab 5 or 6
 - Add saving/retrieving


SCHOOL OF ENGINEERING



Lab 7

- Initially
 - The waiting list may be either
 - empty
 - formed with information read from a file
- At the end
 - The updated waiting list is saved into a file

SCHOOL OF ENGINEERING




Lab 7

- The info should be saved in a text file according to the following format:

Name	Group Size
Joe	5
Mary	3
Zoe	3
- It should be possible to read the file with commands such as **cat** and **more**


SCHOOL OF ENGINEERING



Lab 7

- The name of the file is an argument for the program
 - If the file does not exist
 - fopen returns NULL for reading
 - the list starts empty and is saved at the end into a file with the given name
 - If the file does exist
 - the list is initially formed with the information obtained from the file and is saved into the same file at the end

SCHOOL OF ENGINEERING



Lab 7

- The name of the file is an argument for the program
 - Example:


```
# ./wait_list <file_name>
or
# ./a.out <file_name>
```

SCHOOL OF ENGINEERING



Lab 7

- The name of the file is the first argument for the program

– In the code:

```
main (int argc, char *argv[])
{
    ...
    if (argc == 1)
    {
        printf ("The name of the file is missing!\n");
        return 1;
    }

    read_file (argv[1]);
    ...
}
```

SCHOOL OF ENGINEERING



Lab 7

- The name of the file is an argument for the program

– In the code:

- argc** gives the number of arguments
- argv** is an array of strings, each of which is one of the arguments for the program
- argv[0]** is the name of the executable
- argv[1] – argv[argc – 1]** are the arguments

SCHOOL OF ENGINEERING



Lab 7

- The waiting list is created/modified interactively, as in lab 5 or 6, except that command quit (zero) will save the info into a file.

– quit

- save the list in the file specified and quit

SCHOOL OF ENGINEERING



Lab 7

- Requirements

– Two new functions, called from main

- Read from file
 - Receive file name as an argument
 - Call the **insert** function to insert the data read from file
- Save to file
 - Receive file name as an argument

SCHOOL OF ENGINEERING



Lab 7

- Requirements

- Use same **insert** function for inserting information from the file and from the keyboard.
- Your insert function should have the following type:


```
void insert (char *, int);
```
- Read the name and number to local variables (char array and int) before calling the **insert** function.

SCHOOL OF ENGINEERING



Lab 7

- Requirements

- Names cannot repeat!
 - Need to deal with that before calling function insert
- Use function **fseek** to read the beginning of the file (header) before reading the data (names/numbers).
 - Type **man fseek** to learn how to use the function

SCHOOL OF ENGINEERING



Lab 7

- To receive full credit
 - Pre-lab (10%)
 - Test plan
 - Demo (30%)
 - Show the TA
 - Save to file
 - File is in the correct format
 - Retrieve from file
 - Submit to Camino (60%)

SCHOOL OF ENGINEERING



End

Lab 7

SCHOOL OF ENGINEERING