Alexandria University
Faculty of Engineering
Specialized Scientific
Programs Fall 2019

Computer and Communications
Program
CSE271 Programming 1
Final Project

Final Project
Telephone Book

It is required to write a program that will create and maintain a phone directory. Each entry of the directory will include the name – last and first, birth date (**another struct of day, month and year**), the address, email, and the phone number.
Your program should allow the user to execute the following commands:

1- **LOAD (Read from file):** This command reads in a file name and loads the phone directory from this file. The file is a text file that is comma delimited in which each entry is found on a separate line. Each entry must contain the last name, first name, street address, email and phone number. An example of one line in the file is as follows:
Steven,Thomas,10-06-1995,26 Elhoreya Street,sthomas@gmail.com,03-4876321

2- **QUERY (Search):** The system should process a request by the user to look up information about a specific entry. The user must supply the person's last name, and the system should provide the first name, address, email and phone number for all users of that last name.

3- **ADD:** The system should prompt the user field by field for the data of a single record and add it to the directory.

4- **DELETE:** The user should be prompted for the name – last and first and a record associated with that name should be deleted from the directory.

5- **MODIFY:** The user should be prompted for a last name. Then the user should be prompted field by field to modify the information for one of the records (selected by user) that have that last name.

6- **Print(Sort):** Print the entire directory, in sorted order. You should prompt the user to choose if sort should be done based on either last name or Date of Birth.[**Hint**](make 3 functions print,sortByLname and SortByDOB then inside print call one of sorting functions according to user choice then print the entire directory)

7- **SAVE:** Save the directory by writing it out to an external file in a format similar to that explained in the Load command.
8- **QUIT:** Exit (without saving the directory in the external file). You should display a warning to the user about all of his/her changes will be discarded.

Bonus

- Split your work in multiple header files (.h and .c files).
- The program should validate all entered data.
    - Validate a number in the phone number.
    - Validate a sting in the first name, last name, address, …etc.
    - Validate the email address (example@domain.com).
    - Validate the date in Date of birth.
- Implement multi search in task 2, use many fields to search for a contact, leaving a field blank means it will not be used in the search.

Notes:

- The program should check for errors and print appropriate messages (e.g. trying to delete an entry that is not in the file).
- The program should validate entered data.
- Every task of the above tasks should be a separate function.
- You shall use global variable; it will help you a lot.
- You should do a menu to enable an easy access for all of these functions.
- Late submissions will not be accepted.
- You should Work in **groups of three.**
- No time will be allowed at the lab during the discussion for any modifications.
- Cheating Policy:
    - All actual programming should be an independent effort. If any kind of cheating is discovered, penalties will apply to the participating students by zero in year work marks, so delivering nothing is so much better than delivering a copy.

Deliverables:

- Report that will contain description for your work, sample runs for the program, user manual (how to use the system), and main algorithms used (search algorithm, sort algorithm).
- Deadline will be Friday 20th December 11:59 pm .

Good luck ☺

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