

Lab 11. Collections. I/O Operations from files

Problem 11_4

Write a program which implements an electronic telephone note book.

An phone subscriber has first name, last name, address and phone number. Write a class Subscriber which implements the characteristics of all subscribers and supplies public methods about that we can obtain information about a subscriber. Information about subscribers will be read from the „subscribers.txt” file, with the content:

```
Pop Ionescu Rose Alley 457789
Ion Popescu Hope Street 789064
Marin Marinescu Oak Street 675643
```

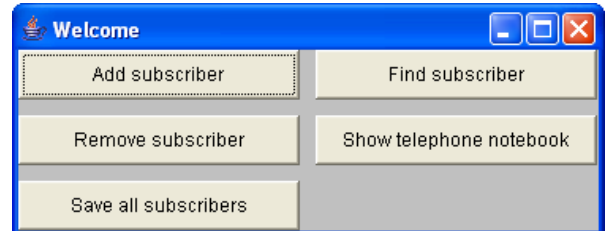
Use the Subscriber class and a dynamic data structure (at option) to write a class TelephoneNoteBook which has methods to implement the following operations:

- displaying the subscribers in alphabet order after those names,
- displaying information of a subscriber if his name is given to,
- add a subscriber. If the subscriber is already in the note book, you will show a warning message.
- remove a subscriber. If the subscriber is not in the note book, you will show an error message.

In addition, the class TelephoneNoteBook has a method which save the elements of the data structure in the “subscribers.txt” file such as it will contain the current note book of phone subscribers.

The program functionality is described in the following. When the program starts it looks in the current folder for the file “subscribers.txt”. If it is found, the program creates and loads a collection of Subscriber objects whose information is taken from the file. Otherwise, the program creates an empty objects collection.

After that, the program displays the main GUI that has the title “Welcome”:



1. In order to introduce the information about a new subscriber, the user should click on “Add subscriber” button. The following GUI is displayed and he/she enters all requested information and clicks “OK”. At this moment, the program creates a Subscriber object that encapsulates the first and last names, address, and telephone number. After that, the program closes the



current window and opens the main GUI.

2. The user may click the “Remove subscriber” button. At this moment, the program displays the GUI “Remove a subscriber” in which the user inputs the first and last names that he/she wants to find and clicks on Enter. The program searches if there is a subscriber with introduced names and in the affirmative case it displays all information about the subscriber found. Otherwise, the program displays an error message in a JOptionPane frame dialog.
3. The user may click the “Find subscriber” button. At this moment, the program displays the GUI “Find a subscriber” in which the user inputs the first and last names that he/she wants and clicks on “OK”. The program removes the Subscriber object from collection, if it exists and displays a confirmation message.
4. The user may click the “Show telephone notebook” button. At this moment, the program displays in a text area from frame information about all subscribers from the collection.
5. The user may click the “Save all subscribers” button. At this moment, the program writes in the file “subscribers.txt” all information registered about the subscribers in the Subscriber objects collection.

The program exits when the user clicks on the Close button from the main GUI.