

The Address Book

In this assignment you will create a java program that works as an Address Book which keeps track of contacts' names, phones and their email addresses. The goal is to get your hands dirty in Java programming.

The proposed program should display the following options to the user (Figure 1):

```
Main Window:
=====
Choose one of the following options:
(1) Add a new contact.
(2) Search for contact
(3) Display all contacts
(4) Quit
Enter Your Choice:
```

(Figure 1 – Main Window)

The user should enter one of these options and the program should repeat displaying these options until the user chooses one of them.

Add a new contact option:

The “Add a new contact” option is initiated when the user chooses (1). The user has to enter the new contact information, including: (name, email address, phone number, and notes) (see figure 2).

```
Main Window --> Add a new contact window: (Enter the following information)
=====
Name: James
Email: Smith
Phone: 545454354888
Notes:
-----
Saved successfully....Press Enter to go back to the Main Window
```

(Figure 2 – Add a new contact window)

At the end of the process the program should display a message explaining the operation result and should ask the user to press enter to go back to the main window again.

Search for contact window:

The “Search for contact” option is initiated when the user chooses (2) in the main window. The user has to choose the type of search (search by name, by email or by phone number) (figure 3).

```
Main Window --> Search for Contact window: (Choose one of the following options)
=====
(1) Search by Name
(2) Search by Email
(3) Search by Phone

Enter Your Choice:
```

(Figure 3 - Search for Contact window)

The user has to select one of these options and then enter the appropriate search information and the program will display the results (figure 4).

```
Main Window --> Search for Contact window --> Search by Name
=====
(1) Enter Name: James

Search Results:
-----
ID | Name                | Email                | Phone                | Notes
-----
1 | James Smith          | James@yahoo.com      | 4654646467          | Nothing
2 | James Rad            | Jr2011@hotmail.com   | 11213312313         | working at xyz company
-----

Choose one of these options:
(1) To delete a contact
(2) Back to main Window

Enter Your Choice:
```

(Figure 4 – Search by Name Results)

After displaying the search results, the program should ask the user about his options:

- (1) To delete a contact
- (2) Back to main Window

The user has to choose one of these two options; if the user chooses to delete a contact then the program should ask about the contact ID and then the program should delete the selected contact and display a message explaining the result of the process and asking the user to press Enter to go back to the main window again (figure 5).

```
Main Window --> Search for Contact window --> Search by Name
=====
(1) Enter Name: James

Search Results:
-----
ID | Name                | Email                | Phone                | Notes
-----
1  | James Smith           | James@yahoo.com      | 4654646467          | Nothing
2  | James Rad              | Jr2011@hotmail.com   | 11213312313         | working at xyz company
-----

Choose one of these options:
(1) To delete a contact
(2) Back to main Window
Enter Your Choice: 1

Main Window --> Search for Contact window --> Search by Name --> Delete a Contact
=====
Enter the Contact ID: 1
Deleted....press Enter to go back to main window
```

(Figure 5 – Delete a Contact)

Similar process should be performed for (**search by email**) and (**search by phone**); search results should be displayed and the user should be asked if he/she wants to delete a contact or not.

Display all contacts window:

The “Display all contacts” option is initiated when the user chooses (3) in the main window. The program should print on the screen all contacts in the address book sorted by their names (figure 6).

Main Window --> Display All Contacts

=====

ID	Name	Email	Phone	Notes
6	Amw Maiod	J4777@hotmail.com	4444312353	
5	Fernand Kuls	KulsF@njcu.edu	22133333	Math Teacher
7	Hani Wad	hnlele@ymail.com	+44383224234	Taxi
2	James Rad	Jr2011@hotmail.com	11213312313	working at xyz
1	James Smith	James@yahoo.com	4654646467	Nothing
9	Joe Moode	JOE4@hotmail.com	33178686785	
8	Thomas Jake	jthom@mail.com	201122333	Driving School

Press Enter to go back to the Main Window

(Figure 6 – Display all contacts)

Important Notes:

- There is no need to save the data of contacts in any file (the program starts with no data and data will not be saved when the user exits the program).
- **Be sure to create the program as OOP (create Contact Class, use ArrayList of Contacts).**
- The class Contact should provide methods:
 - o to get the number of objects created from this class,
 - o to reset this number.
 - o and to set this number
- **Contact's ID is an auto generated serial number (it should be generated automatically when a new contact is created).**
- It is so important to submit a working program (Non-working applications will not be considered).
- You must submit one file only (java project folder as zip file only).

Extra Credit - Optional (0.5 point):

- Use files to save the data (the program should start by reading the data from a file “data.bin” and save any newly added contacts to the same file).
- If you decide to store data in files, be sure to store the id of the last created contact in the file so that any newly generated contacts will have a unique id in the same sequence.