

EMERTXE TRAINING PROJECT DOCUMENTATION FRAMEWORK
REQUIREMENTS & DESIGN DOCUMENT

Module – Advanced C

Address Book



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1 Abstract

Address Book is a small application written in C language. It keeps track of names and telephone/mobile numbers and e-mail addresses. It is a console based application which uses standard I/O for adding and deleting contact names, phone numbers and e-mail addresses, searching names and associated numbers and email addresses, updating numbers and email addresses, and deleting contacts

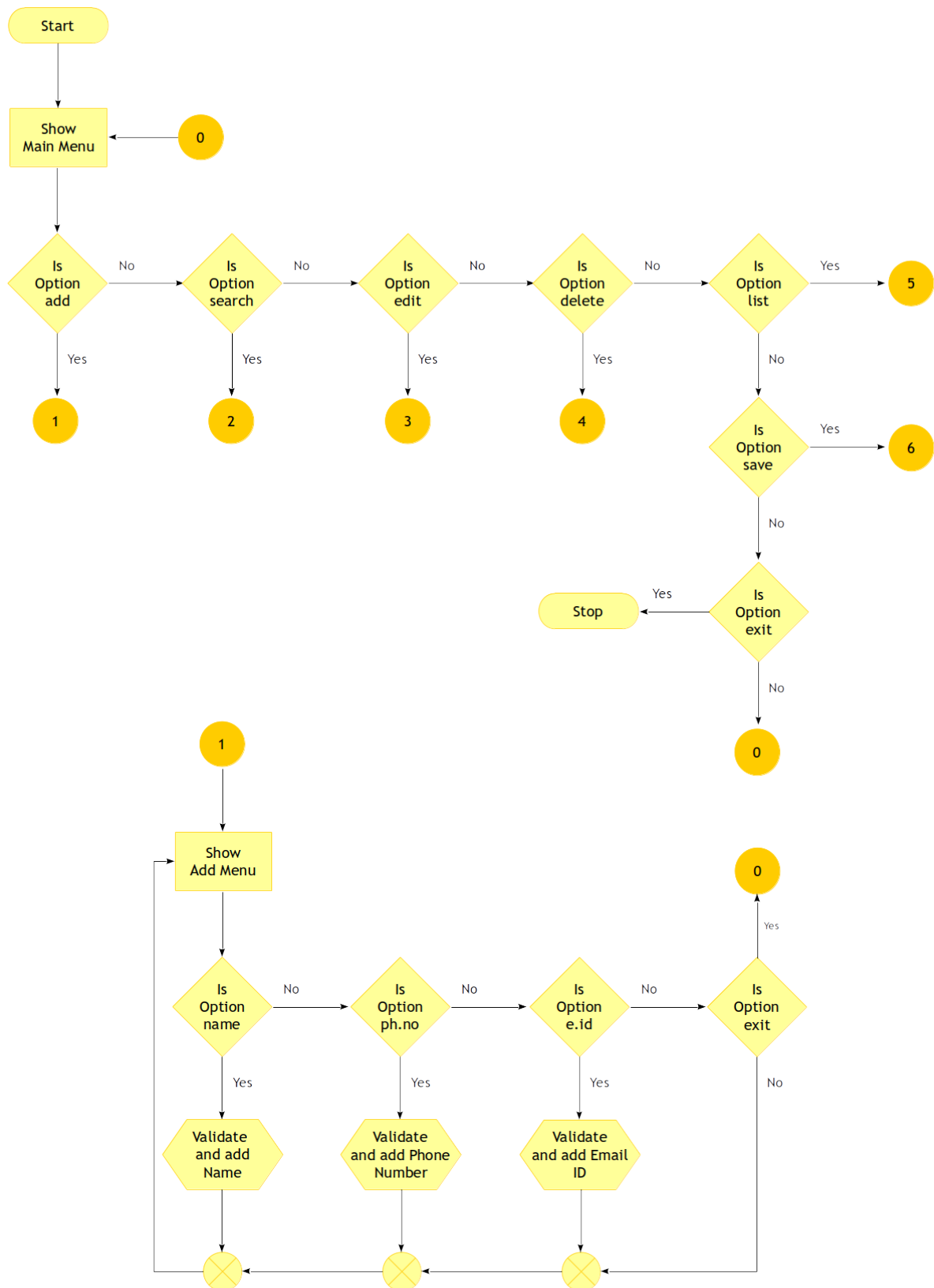
2 Requirements

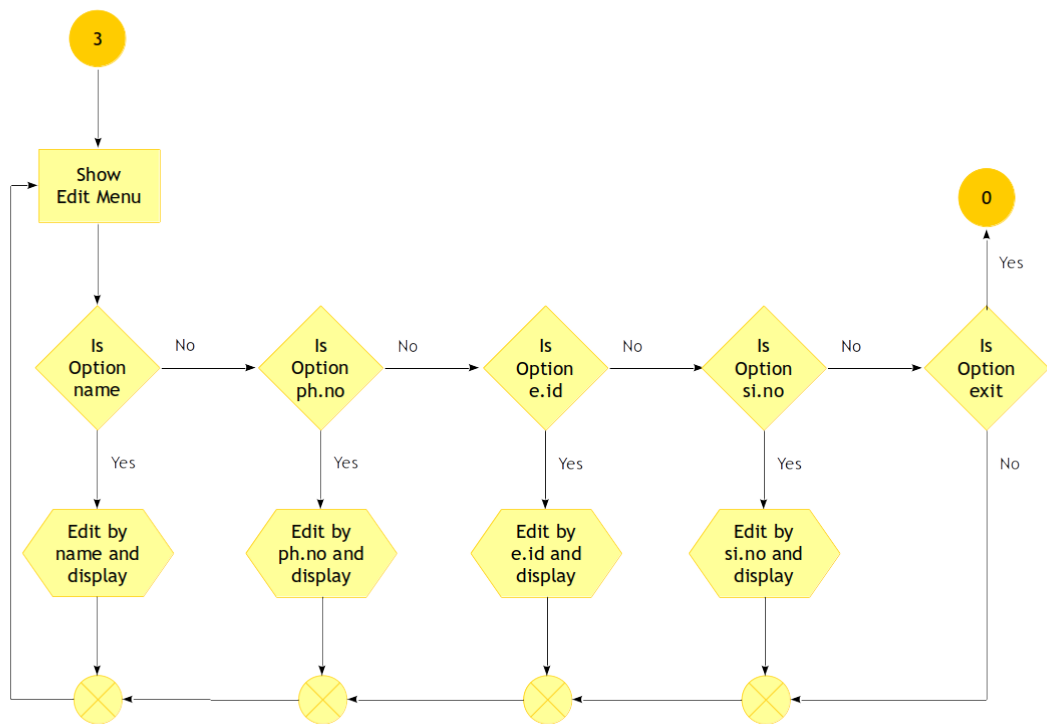
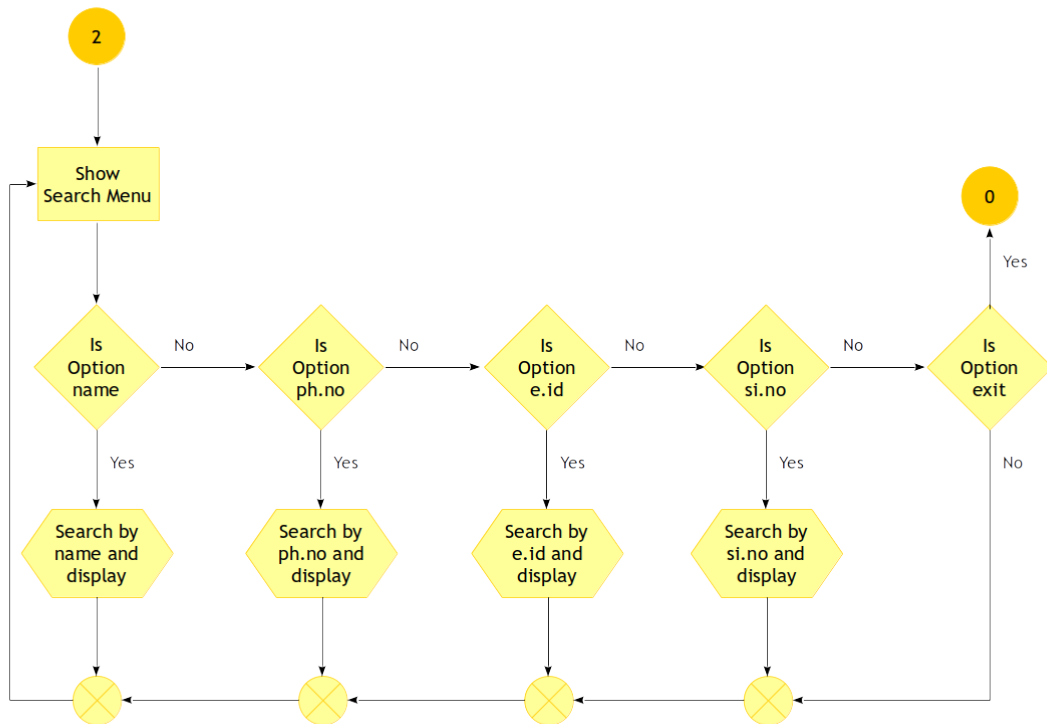
- Add Contact
 - Add a contact giving user name
 - Add phone numbers to the newly added contact
 - Add e-mail addresses to the newly added contact
- Search Contact
 - Search a contact by name.
 - Search contact by phone number.
 - Search contact by e-mail address.
- Edit Contact
 - Edit by name.
 - Edit contact by phone number.
 - Edit contact by email address.
- Delete contact
 - Edit by name.
 - Edit contact by phone number.
 - Edit contact by email address.
- List all contacts
- Save the address book.
- Exit the application.

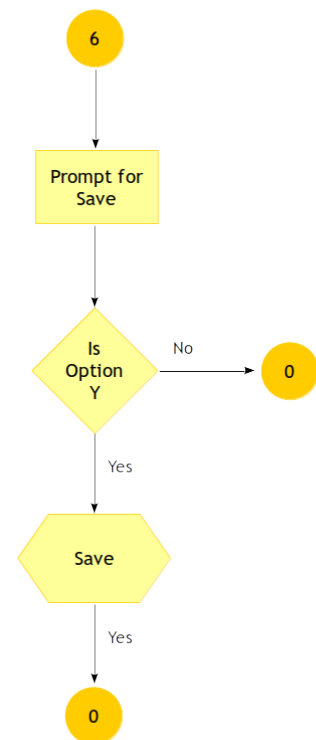
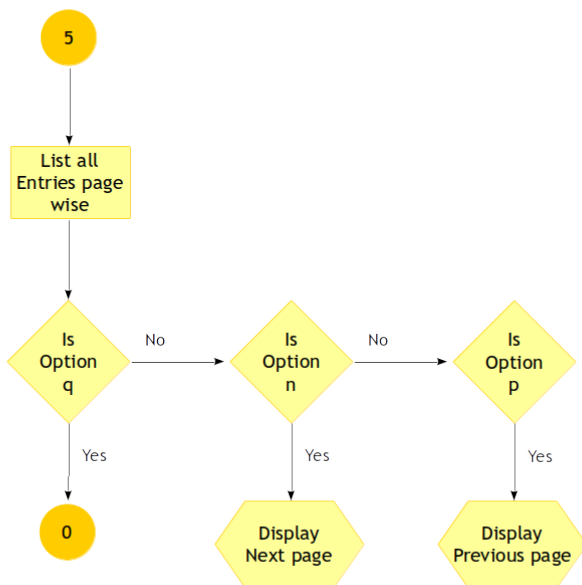
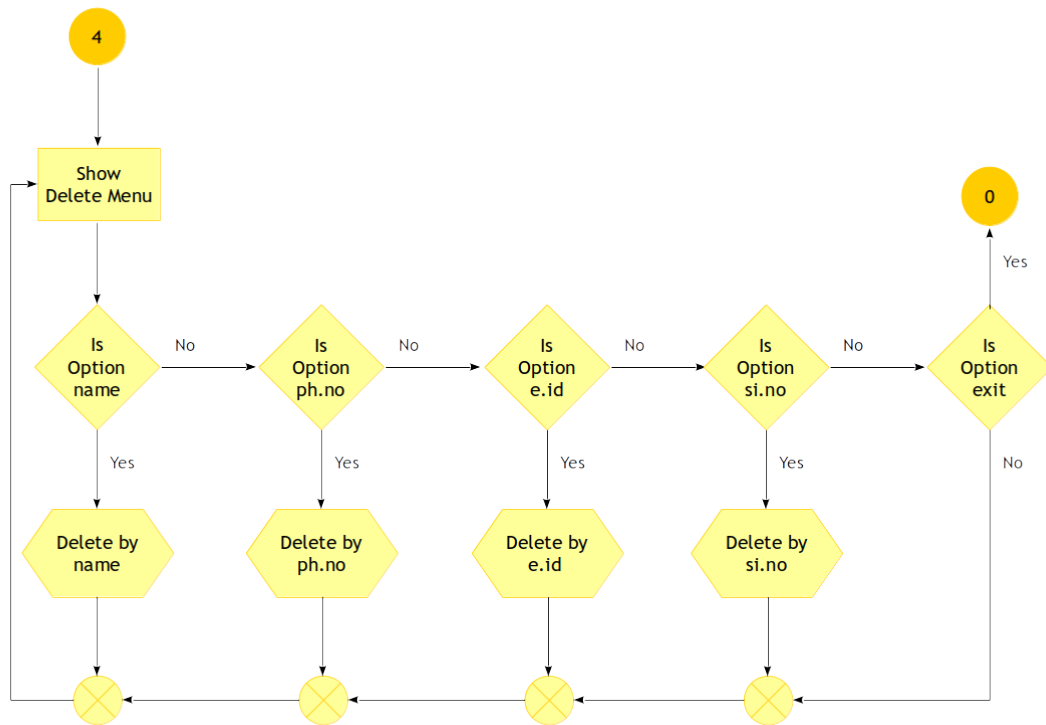
3 Prerequisites

- File I/O
- String Handling
- Pointers, Structures and Dynamic Memory Handling

4 Design







5 Sample Output

```
##### Address Book #####
##### Features:

0. Exit
1. Add Contact
2. Search Contact
3. Edit Contact
4. Delete Contact
5. List Contacts
6. Save

Please select an option: 1
```

Fig 5 1: Main Menu, Selecting option 1

```
##### Address Book #####
##### Add Contact:

0. Back
1. Name      :
2. Phone No 1 :
3. Email ID 1 :

Please select an option:
```

Fig 5 2: Add Contact Menu

```
##### Address Book #####
##### Add Contact:

0. Back
1. Name      :
2. Phone No 1 :
3. Email ID 1 :

Please select an option: 1
Enter the name:
```

Fig 5 3: Add Contact with the help of Name

```
##### Address Book #####
##### Add Contact:

0. Back
1. Name      : Jayakumar
2. Phone No 1 :
3. Email ID 1 :

Please select an option:
```

Fig 5 4: View of the added Name

```
##### Address Book #####
##### Add Contact:

0. Back
1. Name      : Jayakumar
2. Phone No 1 :
3. Email ID 1 :

Please select an option: 2
Enter Phone Number 1: [Please reenter the same option of alternate Phone Number]:
```

Fig 5 5: Adding Phone Number

```
##### Address Book #####
##### Add Contact:

0. Back
1. Name      : Jayakumar
2. Phone No 1 : 08041289576
3. Email ID 1 :

Please select an option:
```

Fig 5 6: View of added Phone Number

```
##### Address Book #####
##### Add Contact:

0. Back
1. Name      : Jayakumar
2. Phone No 1 : 08041289576
3. Email ID 1 :

Please select an option: 3
Enter Email ID 1: [Please enter the same option of alternate Email ID]: b.jayakumar@emertxe.com
```

Fig 5 7: Add Email Address

```
##### Address Book #####
##### Add Contact:

0. Back
1. Name      : Jayakumar
2. Phone No 1 : 08041289576
3. Email ID 1 : b.jayakumar@emertxe.com

Please select an option: 0
```

Fig 5 8: View of added Email Address, Selecting option 0 to go back

```
##### Address Book #####
##### Features:

0. Exit
1. Add Contact
2. Search Contact
3. Edit Contact
4. Delete Contact
5. List Contacts
6. Save

Please select an option: 2
```

Fig 5 9: Selecting option Search Contact

```
##### Address Book #####
##### Search Contact by:

0. Back
1. Name
2. Phone No
3. Email ID
4. Serial No

Please select an option: 1
```

Fig 5 10: Search Contact with help of Name

```
##### Address Book #####
##### Search Contact by:

0. Back
1. Name
2. Phone No
3. Email ID
4. Serial No

Please select an option: 1
Enter the Name: Jayakumar
```

Fig 5 11: Search by Name

```
##### Address Book #####
##### Search Result:

=====
: S.No : Name                               : Phone No           : Email ID           :
=====
: 1    : Jayakumar                : 08041289576       : b.jayakumar@emertxe.com :
:      :                            :                    :                          :
:      :                            :                    :                          :
:      :                            :                    :                          :
:      :                            :                    :                          :
=====
Press: [q] | Cancel:
```

Fig 5 12: View of Search Result

```
##### Address Book #####
##### Search Result:

=====
: S.No : Name : Phone No : Email ID :
=====
: 1 : Jayakumar : 08041289576 : b.jayakumar@emertxe.com :
: : : : :
: : : : :
: : : : :
: : : : :
: : : : :
=====
Press: [q] | Cancel: q
```

Fig 5 13: Selecting 'q' to Cancel

```
##### Address Book #####
##### Features:

0. Exit
1. Add Contact
2. Search Contact
3. Edit Contact
4. Delete Contact
5. List Contacts
6. Save

Please select an option: 3
```

Fig 5 14: Selecting Edit Contact

```
##### Address Book #####
##### Search Contact to Edit by:

0. Back
1. Name
2. Phone No
3. Email ID
4. Serial No

Please select an option: 1
```

Fig 5 15: Selecting Edit Contact with the help of Name

```
##### Address Book #####
##### Search Contact to Edit by:

0. Back
1. Name
2. Phone No
3. Email ID
4. Serial No

Please select an option: 1
Enter the Name: Jayakumar
```

Fig 5 16: The contact to be Edited

```
##### Address Book #####
##### Search Result:

=====
: S.No : Name : Phone No : Email ID :
=====
: 1 : Jayakumar : 08041289576 : b.jayakumar@emertxe.com :
: : : : :
: : : : :
: : : : :
: : : : :
=====
Press: [s] = Select, [q] | Cancel: s
Select a Serial Number (S.No) to Edit: 1
```

Fig 5 17: Available contact(s) with provided Name. Selecting S No 1 to Edit

```
##### Address Book #####
##### Edit Contact:

0. Back
1. Name      : Jayakumar
2. Phone No 1 : 08041289576
3. Email ID 1 : b.jayakumar@emertxe.com

Please select an option: 2
```

Fig 5 18: Selecting the Phone No to Edit

```
##### Address Book #####
##### Edit Contact:

0. Back
1. Name      : Jayakumar
2. Phone No 1 : 08041289576
3. Email ID 1 : b.jayakumar@emertxe.com

Please select an option: 2
Enter Phone Number index to be changed [Max 5]: 2
Enter Phone Number 2: [Just enter removes the entry]: 08095666333
```

Fig 5 19: Adding additional Phone No., In case of deleting existing number, You have to select the index number and press Enter Key

```
##### Address Book #####
##### Edit Contact:

0. Back
1. Name      : Jayakumar
2. Phone No 1 : 08041289576
               2 : 08095666333
3. Email ID 1 : b.jayakumar@emertxe.com

Please select an option: 0
```

Fig 5 20: View of added Phone No., Selecting 0 to go Back

```
##### Address Book #####
##### Features:

0. Exit
1. Add Contact
2. Search Contact
3. Edit Contact
4. Delete Contact
5. List Contacts
6. Save

Please select an option: 4
```

Fig 5 21: Selecting Delete Contact

```
##### Address Book #####
##### Search Contact to Delete by:

0. Back
1. Name
2. Phone No
3. Email ID
4. Serial No

Please select an option: 1
Enter the Name: Jayakumar
```

Fig 5 22: Delete Contact with the help of Name

```
##### Address Book #####
##### Search Result:

=====
: S.No : Name                : Phone No                : Email ID                :
=====
: 1    : Jayakumar              : 08041289576             : b.jayakumar@emertxe.com :
:      :                        : 08095666333             :                          :
:      :                        :                          :                          :
:      :                        :                          :                          :
=====
: 2    : Jayakumar              :                          :                          :
:      :                        :                          :                          :
:      :                        :                          :                          :
:      :                        :                          :                          :
=====
Press: [s] = Select, [q] | Cancel:
```

Fig 5 23: Available Contact(s) to be Deleted, Note the 2nd entry without Phone and Email ID

```
##### Address Book #####
##### Search Result:

=====
: S.No : Name                : Phone No                : Email ID                :
=====
: 1    : Jayakumar              : 08041289576             : b.jayakumar@emertxe.com :
:      :                        : 08095666333             :                          :
:      :                        :                          :                          :
:      :                        :                          :                          :
=====
: 2    : Jayakumar              :                          :                          :
:      :                        :                          :                          :
:      :                        :                          :                          :
:      :                        :                          :                          :
=====
Press: [s] = Select, [q] | Cancel: s
Select a Serial Number (S.No) to Delete: 2
```

Fig 5 24: Selecting the 2nd one to Delete

```
##### Address Book #####
##### Delete Contact:

0. Back
1. Name      : Jayakumar
2. Phone No 1 :
3. Email ID 1 :

Enter 'Y' to delete. [Press any key to ignore]: Y
```

Fig 5 25: Deleting the selected Contact, Note in case you want to retain it, just press any other key apart from Y

```
##### Address Book #####
##### Features:

0. Exit
1. Add Contact
2. Search Contact
3. Edit Contact
4. Delete Contact
5. List Contacts
6. Save

Please select an option: 5
```

Fig 5 26: Selecting List Contact Option

```
##### Address Book #####
##### Search Result:

=====
: S.No : Name                : Phone No                : Email ID                :
=====
: 1    : Jayakumar              : 08041289576             : b.jayakumar@emertxe.com :
:      :                        : 08095666333             :                          :
:      :                        :                          :                          :
:      :                        :                          :                          :
=====
Press: [q] | Cancel:
```

Fig 5 27: List of existing contact(s)

```
##### Address Book #####
##### Features:

0. Exit
1. Add Contact
2. Search Contact
3. Edit Contact
4. Delete Contact
5. List Contacts
6. Save

Please select an option: 6
Done. Please enter key to continue:
```

Fig 5 28: Selecting Save option to save the entries. Note if the program is terminated the unsaved entries will be lost

```
##### Address Book #####
##### Features:

0. Exit
1. Add Contact
2. Search Contact
3. Edit Contact
4. Delete Contact
5. List Contacts
6. Save

Please select an option: 0
```

Fig 5 29: Selecting Exit option to Quit the application

```
##### Address Book #####
##### Features:

0. Exit
1. Add Contact
2. Search Contact
3. Edit Contact
4. Delete Contact
5. List Contacts
6. Save

Enter 'N' to Ignore and 'Y' to Save: Y
Exiting. Data saved in address_book.csv
user@emertxe]
```

Fig 5 30: Pressing 'Y' to Save

```
user@emertxe] cat address_book.csv
1
Jayakumar,08041289576,08095666333,...,b.jayakumar@emertxe.com,...
user@emertxe]
```

Fig 5 31: The Database is .csv

6 Artifacts

6.1 Skeleton Code

- www.emertxe.com/content/c-programming/code/addressbook_src.zip

6.2 References

- https://en.wikipedia.org/wiki/Address_book