Quiz 5 Programming Exercise

Write an Address Book program in Java:

1. You must turn in:
    a. UML class diagrams that shows all of your classes. Use appropriate notation on your diagram to indicate private and public data fields and methods along with any static fields or methods you may define.
    b. Your source code for review.
    c. The output of your program that tests your application against the test cases illustrated in the Sample Run section of this document.

2. Make sure you write get/set methods for data fields that are appropriate.

3. Use appropriate data types for your internal data.

4. Put your main method in a separate class to test your application.

5. Description: The Address Book can store either professional or personal contacts. All entries have a first name, last name, email, and telephone number. In addition to these fields, professional contacts have an occupation and company name. Meanwhile, personal contacts have a relation (like “mother”, “father”, or “friend”) that is stored along with the other contact data.

6. Operations: The program should support adding new contacts, deleting a contact by first name and last name, searching for a contact by first name and last name, and printing the entire directory.

7. Make sure you override the appropriate methods from the Object class.

8. Display a menu of options and only exit the application when an exit command is entered by the user.

9. You should have an AddressBook class that encapsulates the different types operations in requirement 7.

Sample Run:

```
----MENU----
1. Add a Personal Contact
2. Add a Professional Contact
3. Search for Contact
4. Delete Contact
5. Print Address Book
6. Exit
------------


Please enter a number (1-6):
t
YOU DID NOT ENTER AN INTEGER - TRY AGAIN!


----MENU----
1. Add a Personal Contact
2. Add a Professional Contact
3. Search for Contact
4. Delete Contact
5. Print Address Book
6. Exit
------------


Please enter a number (1-6):
8
YOU DID NOT ENTER AN INTEGER BETWEEN 1 - 6. TRY AGAIN!

----MENU----
1. Add a Personal Contact
2. Add a Professional Contact
3. Search for Contact
4. Delete Contact
5. Print Address Book
6. Exit
------------


Please enter a number (1-6):
5
--Address Book--
--END--


----MENU----
1. Add a Personal Contact
2. Add a Professional Contact
3. Search for Contact
4. Delete Contact
5. Print Address Book
6. Exit
------------
```

Test entering a non-numeric value at the menu prompt.

Test entering an integer not in the range of 1 – 6.

Printing should show an empty address book.

```
Please enter a number (1-6):
1
Enter firstName lastName telephone email relation
John Doe 123-456-7890 jdoe@gmail.com brother
Personal Contact Added!


----MENU----
1. Add a Personal Contact
2. Add a Professional Contact
3. Search for Contact
4. Delete Contact
5. Print Address Book
6. Exit
------------
```

Add a personal contact.

```
Please enter a number (1-6):
2
Enter firstName lastName telephone email occupation company
Richard Anderson 456-789-0123 randerson@apple.com engineer Apple
Professional Contact Added!


----MENU----
1. Add a Personal Contact
2. Add a Professional Contact
3. Search for Contact
4. Delete Contact
5. Print Address Book
6. Exit
------------
```

Add a professional contact.

```
Please enter a number (1-6):
5
--Address Book--
John Doe
T: 123-456-7890
E: jdoe@gmail.com
R: brother

Richard Anderson
T: 456-789-0123
E: randerson@apple.com
C: Apple
O: engineer

--END--


----MENU----
1. Add a Personal Contact
2. Add a Professional Contact
3. Search for Contact
4. Delete Contact
5. Print Address Book
6. Exit
------------
```

Print the address book and see two contacts.

```
Please enter a number (1-6):
3
Enter firstName lastName
William howard
Contact Not Found!


----MENU----
1. Add a Personal Contact
2. Add a Professional Contact
3. Search for Contact
4. Delete Contact
5. Print Address Book
6. Exit
------------
```

Search for a contact that does not exist.

```
Please enter a number (1-6):
3
Enter firstName lastName
rIcHARd AnderSON
Contact Found:
Richard Anderson
T: 456-789-0123
E: randerson@apple.com
C: Apple
O: engineer


----MENU----
1. Add a Personal Contact
2. Add a Professional Contact
3. Search for Contact
4. Delete Contact
5. Print Address Book
6. Exit
------------
```

Search for a contact that does exist and show that the item is found using case insensitive search.

```
Please enter a number (1-6):
4
Enter firstName lastName
rIchard ANDERSON
Contact Was Deleted


----MENU----
1. Add a Personal Contact
2. Add a Professional Contact
3. Search for Contact
4. Delete Contact
5. Print Address Book
6. Exit
------------


Please enter a number (1-6):
5
```

Delete a contact that exists (case should not matter).

```
--Address Book--
John Doe
T: 123-456-7890
E: jdoe@gmail.com
R: brother

--END--


----MENU----
1. Add a Personal Contact
2. Add a Professional Contact
3. Search for Contact
4. Delete Contact
5. Print Address Book
6. Exit
------------


Please enter a number (1-6):
6
Good Bye!
```

Printing the address book should only show one contact now.

Program loop exits and program terminates.