

# Java Object-Oriented Concepts Unit

Lesson 7 Lab 1: AddressBook

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The Learning House

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## Lesson 7 Lab 1: AddressBook

### Objective:

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The objective of this lab is to continue practice designing programs that consist of more than one class and to practice using Java Collections and Maps.

### Requirements:

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In this lab you will design a program that acts as an electronic address book.

This program must do the following:

1. Allow the user to add addresses to the address book.
2. Allow the user to remove addresses from the address book.
3. Allow the user to see how many addresses are in the book.
4. Allow the user to list all the addresses in the book.
5. Allow the user to find an address by last name.

### Process

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1. Design an **Address class** to hold address information.
2. Design an AddressBook class that has **a Collection of Address objects**. It should also have methods to do the following:
  - a. Add an address
  - b. Remove an address
  - c. Find an address by last name
  - d. Return a count of Addresses in the AddressBook
  - e. Return all of the Addresses in the AddressBook
3. Design a AddressBookController class. This class should do the following:
  - a. Handle all the interaction with the user
  - b. Use the ConsoleIOClass from a previous lab to handle all console input and output
  - c. Use the AddressBook class to store Address objects

Before coding, you must create a flowchart and class diagram (in Dia) for your program.

Please show the diagrams to the instructor before coding.

### Phase II:

Add code to allow the user to edit an address.

### Phase III:

Add code to initialize your address book from a file. Also add code to allow the user to save his/her address back to the file.

UI Sample:

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Initial Menu:

Please select the operation you wish to perform:

1. Add Address
2. Delete Address
3. Find Address
4. List Address Count
5. List All Addresses

Add Address Menu:

Please Enter First Name:

Please Enter Last Name:

Please Enter Street Address:

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Address Added. Press 1 to go to Main Menu

Delete Address Menu:

Please Enter Last Name of Address to Delete:

John Doe  
123 Main Street  
Hometown, OH, 12345

Really Delete?

Address Deleted. Press 1 to go to Main Menu

Find Address Menu:

Please Enter Last Name of Address to Find:

Sally Jones  
45 Elm Street  
Applegrove, OH 44321

Press 1 to go to Main Menu

List Address Count Menu:

There are 45 addresses in the book. Press 1 to go to Main Menu

List Addresses Menu:

John Doe

123 Main Street  
Hometown, OH, 12345

Sally Jones  
45 Elm Street  
Applegrove, OH 44321

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Press 1 to go to Main Menu