**Lab 14**

Create separate packages for each exercise and copy the skeleton classes in each time.

**Exercise 1**

Download the programs AddressBook.java and TestAddressBook.java from Moodle.

Create a text file called contacts.txt with the following data:

Pat

m

0876876543

John

m

0862345678

Paul

m

0839876543

Kate

f

0987654321

Mary

f

08756676778

George

m

0879878765

Kyle

m

0839800543

You need to change the code in the fillList() method in the AddressBook class to read in the data from the file instead of the keyboard. The file contains 7 contacts and your code should read in a random number of contacts between 1 and 7. Change the value on line number 17 to 7.

**Sample Output**

Enter the owner of address book

John

Address Book belongs to:John

Pat,m,0876876543

John,m,0862345678

Paul,m,0839876543

Number of male friends are:3

Total Contacts:3

**Exercise 2**

Download the file ex2and3.zip from Moodle. Extract and copy these files into NetBeans. You will use these for exercise 2 and 3 in the same package.

Note the code to create the objects has been removed as you are now going to create the objects by reading in the data from various text files. The data for all the text files is given below.

You are required to write 3 private static methods in the test class (outside the main method) to do the following:

The method accepts the materials arraylist as a parameter. Inside this method you need to read the data from the file paint.txt and use this data to create Paint objects and add them to the arraylist

Dulux Soft Sheen

11.52

2

12

Crown White

10

3

10

Dulux Matt Emulsion

15.70

3

11

ColorTrend Always Neutral

23.99

2

9

The method accepts the materials arraylist as a parameter. Inside this method you need to read the data from the file wallpaper.txt and use this data to create Wallpaper objects and add them to the arraylist

Shand Kydd

50

10.06

0.52

Graham & Brown

19.99

9.5

.52

Super Fresco

24.99

12.5

.52

The method accepts the materials arraylist as a parameter. Inside this method you need to read the data from the file flooring.txt and use this data to create Flooring objects and add them to the arraylist

Quick-Step Planked Oak

65

1.65

French Oak Renoir

90

1.8

Express Clic

40

1.4

Reflections

50

1.3

You then need to call these three methods inside the main method (after line 12)

**Sample Output**

Name: Dulux Soft Sheen, Requirement: 17.33 units, Price €199.62

Name: Crown White, Requirement: 31.19 units, Price €311.9

Name: Dulux Matt Emulsion, Requirement: 28.35 units, Price €445.17

Name: ColorTrend Always Neutral, Requirement: 23.1 units, Price €554.26

Name: Shand Kydd, Requirement: 19.87 units, Price €993.73

Name: Graham & Brown, Requirement: 21.05 units, Price €420.71

Name: Super Fresco, Requirement: 16 units, Price €399.72

Name: Quick-Step Planked Oak, Requirement: 19.69 units, Price €1,279.91

Name: French Oak Renoir, Requirement: 18.05 units, Price €1,624.5

Name: Express Clic, Requirement: 23.21 units, Price €928.29

Name: Reflections, Requirement: 24.99 units, Price €1,249.62

**Exercise 3 (No need for a new package here)**

Instead of displaying the output to the screen you are now required to print it to a file called output.txt.

Write another private static method that accepts the materials arraylist and an object reference of type Surface as parameters.

Copy the for loop block of code from the test class into this method (lines 18-25).You will need to modify this code to get it working for outputting to a file

Use the PrintWriter,BufferedWriter and FileWriter and File classes to write to the file.

**Sample Output**

Name: Dulux Soft Sheen, Requirement: 17.33 units, Price €199.62

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Name: Super Fresco, Requirement: 16.00 units, Price €399.72

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Name: French Oak Renoir, Requirement: 18.05 units, Price €1,624.50

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