

PROBLEM STATEMENT:

- 1.To create a project in NetBeans.
- 2.To create, edit, compile, and run a Java program using NetBeans.
- 3.To run a Java program using a batch file, without using NetBeans.
- 4.To zip and submit a completed exercise/assignment through email.

CODE:

Obtain the file named ArithOptConsole.txt

In order for NetBeans to "register" the file named ArithOptConsole.java as the main class in the Project, you should create a new project first. Assume that it is named Lab01B. When you create the new project, in the dialog, change the name of the main class from Main to ArithOptConsole.

Open the file obtained from instructor using gedit, NotePad or WordPad and copy the contents of the file. Then in NetBeans, open the file of the same name (ArithOptConsole) created by NetBeans, and paste the contents into this file created by NetBeans. Be sure that the package name in the package statement within the Java file (at the top of the file) remains the same as created by NetBeans, namely lab01b. This approach will ensure that NetBeans considers the file ArithOptConsole.java to be the main file/class in the Project. Then you can Run the Project, instead of Running the File.

Check package name.

- a. In NetBeans, open the ArithOptConsole.java file.
- b. Check to make sure that the package name specified in the package statement within the file is the same as the folder containing the file. Both the package name and the folder name should match. In this case they should be named "lab01b" without the quotes.
- c. Select menu File>Save All to save your work.

Important! As stated above, in general:

- a. The name of the package within the Java program file must match the name of the folder containing the Java program file in the Windows file system.
- b. The name of the class within the Java program file must match the name of the file containing the Java code for the class.

Reformat the program: Reformat the Java code so that it has proper indentation and vertical and horizontal alignment. Your Java code should always have proper Indentation and alignment.

- a. Click in the editor pane to get the focus on this pane.
- b. Then hold the Ctrl (Control) key down and hit the "a" key. This will select all the contents of the Java file. (Alternatively, you can select just part of the file and reformat it.)
- cThen right click on the selected text and select Reformat Code from the pop-up menu.

Compile the program. To compile, do one of the following:

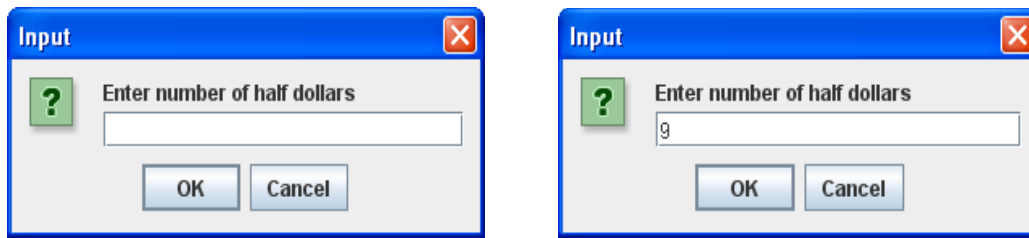
- a. In the left-side Project pane, select the ArithOptConsole.java file. Right-click and select Compile File from the pop-up menu. OR
- b. Select the Lab01 Project node, right-click and select Build Project from the pop-up menu. OR
- c. Select menu Build<Build Main Project.

Fix errors and re-compile the program.

- a. If the Java compiler reported any errors in the above step, fix the errors. You must edit the source code for your Java class (file) to correct the errors.
- b. If the Java compiler reported any warnings, eliminate the warnings. Typically the warnings are about problems caused by incorrect paths.
- c. Recompile the program.

Execute the program.

- a. Right-click on the ArithOptConsole in the Project pane and select Run File from the pop-up menu.
- b. The display windows should look like the following after entering some data.

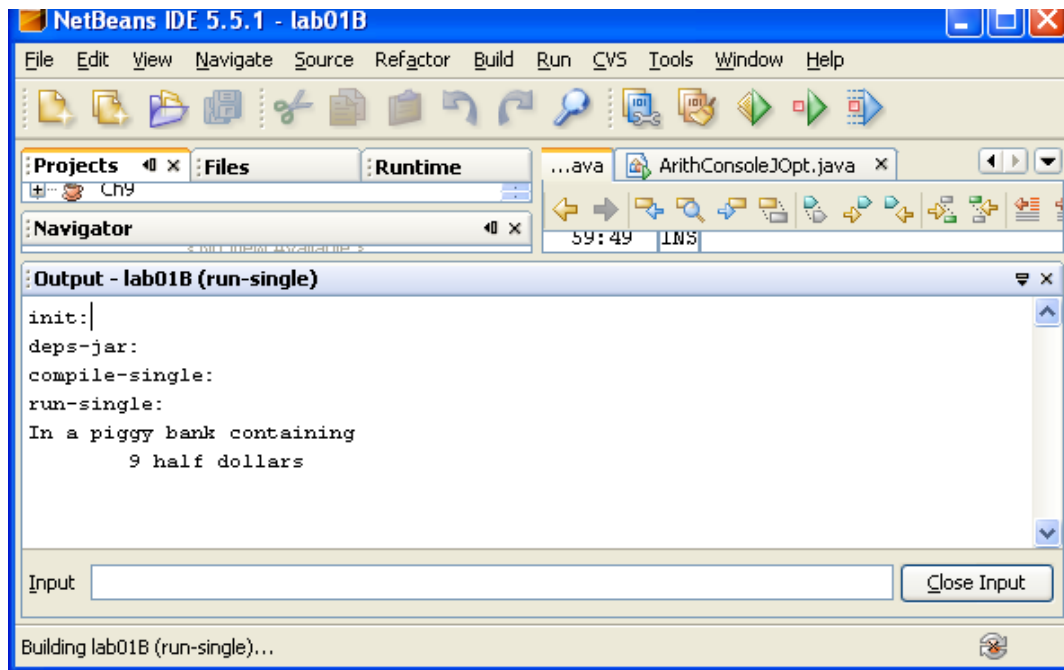
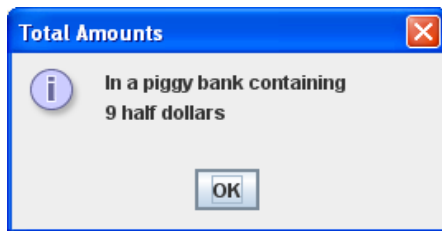
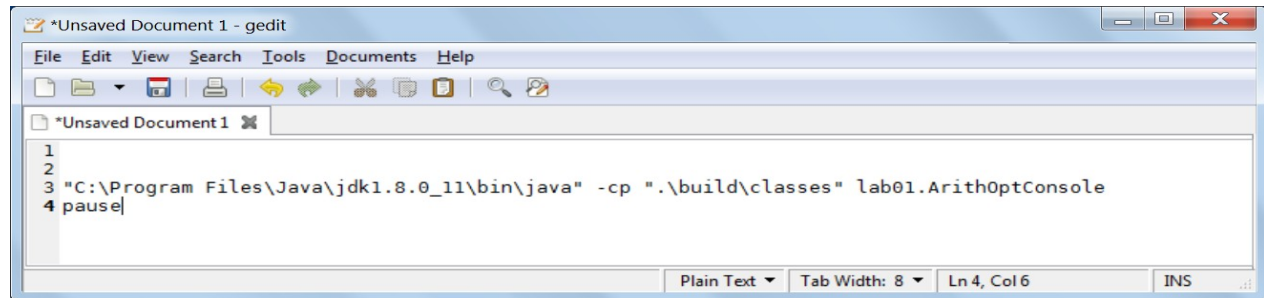


Note. Remember that Java is case sensitive. So always be careful with regard to uppercase and lowercase characters in the names of files, folders, classes, packages, variables, etc.

Default NetBeans file organization. By default, within the Project folder, NetBeans uses separate subfolders for the source code files (in folder src) and the compiled files (in folder build). The folder organization is shown in the figure below. Be sure that you can find your files and that you understand the organization.

Create a shell script or batch file to run your program without the use of NetBeans.

- a. As stated in the previous part of the Lab Exercise, it is important to be able to run your program without using the development environment tool (e.g., NetBeans). When you deploy your application program, you do not include NetBeans in the deployment! That is, end users of your application program will not have NetBeans!
- b. As you did in Exercise 1-A, create a shell script or batch file named runLab01B.bat, to execute your program without using NetBeans. A file with the ".bat" extension is called a "batch file". It is executed from the command line (e.g., in a Command Prompt window).
- c. This shell script or batch file should contain two lines of text as shown in the Notepad window below. Because of the relative path used in this file for the classpath, this file must be placed in your Project folder for the lab exercise. Make the path according to yours. Also, ignore the extra files I have in the folder.



Execute program using your shell script or batch file instead of NetBeans. Now execute the shell script or batch file. The alternative ways to execute the batch file are:

- a. Alternative 1: Open a Command Prompt window, navigate to the correct directory, and type in the name of the batch file with or without extension. This method keeps the window open so that you can see any error messages, even if the pause statement is not in batch file.
- b. Alternative 2: Double-click on the batch file icon in a Windows Explorer window
- c. Alternative 3: Select Run from the Start menu, and type in the path name for the batch file.

Make sure that the shell script or batch file will run your program no matter where you copy the folder, as long as NetBeans was installed in the default location.

The Command Prompt window containing the results of program execution is shown below.

Extend the Java program. Make enhancements to the program so that it will do the following:

- a. In addition to computing the number of cents in the half dollar coins, calculate the number of cents in the quarters, dimes, nickels and pennies always adding them into the total.

The image displays four sequential input dialog boxes, each titled "Input" with a blue header and a red close button. Each dialog contains a green question mark icon, a text label, a text input field, and "OK" and "Cancel" buttons.

- Input 1:** "Enter number of quarters" with the value "17" entered.
- Input 2:** "Enter number of dimes" with the value "40" entered.
- Input 3:** "Enter number of nickels" with the value "1" entered.
- Input 4:** "Enter number of pennies" with the value "3" entered.

Below these is a "Total Amounts" dialog box with a blue header, a red close button, and an information icon. It contains the following text:

In a piggy bank containing
9 half dollars
17 quarters
40 dimes
1 nickels
3 pennies
the total amount is 12 dollars and 83 cents

An "OK" button is located at the bottom center of the "Total Amounts" dialog.

b Display each result on a separate line of output in addition to the existing output. Concatenate all the additional text lines to the string held by variable outputStr

c. Continue to display the entire output string (all the previous output results as well as the new additional output results) in the one JOptionPane dialog, and also write the string to the standard output stream (which is displayed in the bottom Output pane of NetBeans or in the Command Prompt window).

Reformat the program: Reformat the Java code so that it has proper indentation and vertical and horizontal alignment:

a. Click in the editor pane to get the focus on this pane.

b. Then hold the Ctrl (Control) key down and hit the "a" key. This will select all the contents of the Java file.

c. Then right click on the selected text and select Reformat Code from the pop-up menu.

Create ReadMe file.

a. Using your favorite editor, create a file named ReadMe.

b. In this document, insert your name at the top, and on the next line insert the assignment number (e.g., "CS 209 Exercise 1-B").

c. Then enter any comments regarding the assignment. Your comments might include any difficulties encountered, suggestions for improvement of the assignment, etc.

d. Then insert several window captures of windows showing the inputs and outputs from the execution of the program.

e. Be sure the ReadMe.pdf document (file) is in your top level project folder.

Note : the ReadMe must be a pdf

Zip the project folder and all its contents.

- a. In Windows Explorer, navigate to the folder containing the project folder named Lab01B, and select (highlight) the Lab01B folder.
- b. Select menu File>Send To, and select Compressed (zipped) Folder from the list.
- c. As a result, a new file named Lab01B.zip will be created and displayed. This new file contains your NetBeans project folder and all its sub-folders and files in a compressed format.
- d. Change the name the zip file so that its name consists of your name along with the assignment number, as follows: "YourLastName_01B.zip". Do not use spaces in the name of the file, use hyphens instead.

DELIVERABLES:

a zip file, as mentioned above. named

LastName_ Lab_01B_cs209.zip

Sent to streller@ecc.edu with the subject heading written **EXACTLY** as

CS209_Lab01B

The electronic submission is due at 5:00PM Thursday 11 September 2014