

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.

Logging in on campus:

Press Ctrl+Alt+Delete, that is Hold down the Ctrl (Control) key, hold down the Alt (Alternate) key, and then tap the Delete key in that order.
Type in your User-ID which is: <the first 6 letters of your last name> + <the first initial of your first name> + <the 2-digit day of your birth>
Press Tab to drop down to the password box
Type in your Password which is: <the last 4 digits of your social security number> + <the last 2 digits of your birth year>
You should now be logged onto the system.

Course Web Page:

Open Mozilla Firefox by double-clicking on the Mozilla Icon..
Single-click anywhere in the white address box near the top of the page. The active address should now appear highlighted in blue. The highlighted address will disappear as you begin to type below.
Type: <http://wnt.ecc.edu/streller> and press Enter
Follow the links to CS209, lab1
Click on the Lab1 link. Save it unzip it

File Management:

Open File Explorer:

On the desktop, click "this PC" icon to open the File Explorer.
Switch to folder view if File Explorer is not already in that view
Find and open your U: drive in the left file-tree window
Create a new directory/folder in your U: drive
Right-click in a blank area of the right window
From the pop up context menu (right click) select new folder
Name the directory/folder: CS209 and press Enter

NOTE: all work should be done from the C:\ drive

The C: drive does NOT have persistent saving. To save use the U: drive

Close Windows Explorer

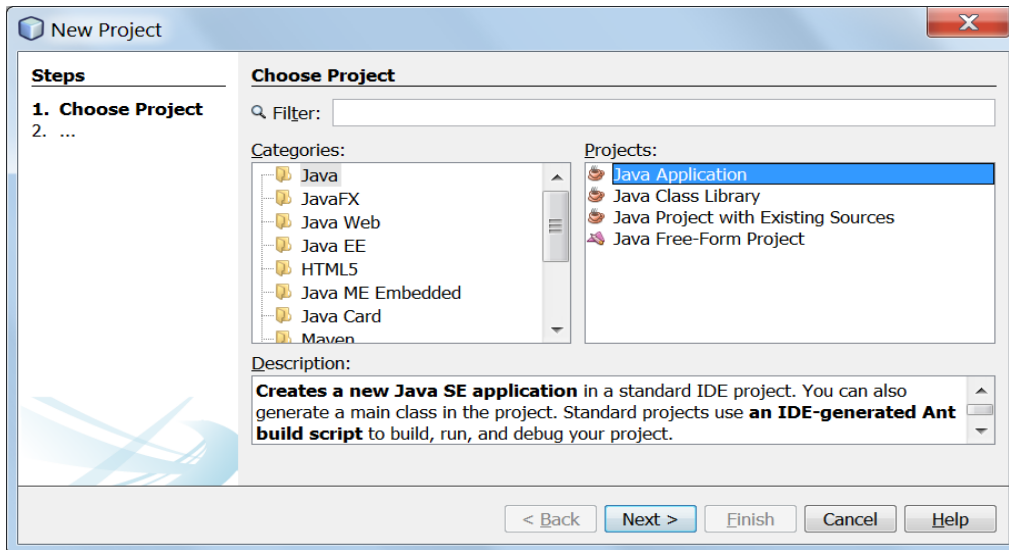
Run Netbeans

Double click the Netbeans icon

Or from the desktop folder named Computer Science ► Netbeans
this will open the Netbeans IDE

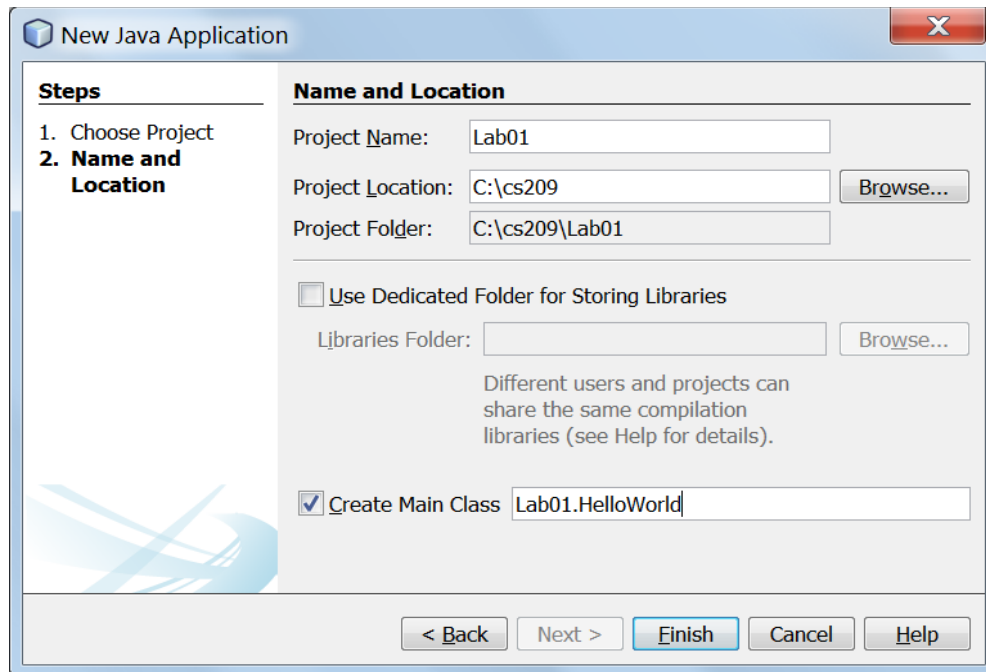
From the menu select: File ► New Project

In the New Project dialog, select General in the Categories pane and
Java Application in the Projects pane. Then click the Next button.



In the Project Name slot enter a name such as "Lab01" without the quotes. For the Project Location slot, click the Browse button and navigate to the folder that you created and click the Open button. The path to the CS209 folder should be filled in the Project Location slot.

Check the two check boxes. In the slot next to Create Main Class, change the "Main" to "HelloWorld" (without the quotes). Be sure to keep the dot (period) separating the two words. The "Lab01" is the package name. See the window capture below.



You will now have an open project in NetBeans containing a Java program file named HelloWorld. This file will contain the framework for a class with the same name as the file. See the second window capture below.

Write java code

At the top of the Java file, enter the following right below the "package" statement:

```
import java.util.*;
import javax.swing.*;
```

In the class named HelloWorld (file named HelloWorld.java) that you just created, find the method called main. In this method, right below the line

```
    TODO code application logic here,
```

enter the following:

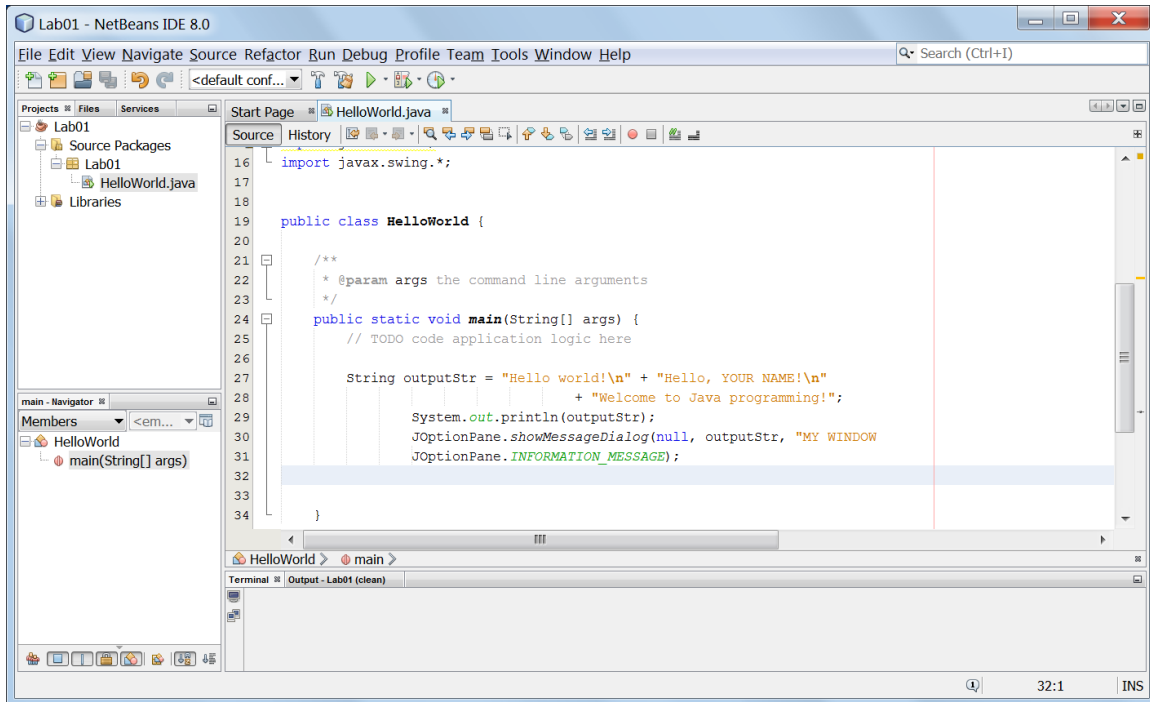
```
String outputStr = "Hello world!\n" + "Hello, YOUR NAME!\n"
                  + "Welcome to Java programming!";
System.out.println(outputStr);
JOptionPane.showMessageDialog(null, outputStr, "MY WINDOW
                                OUTPUT",
JOptionPane.INFORMATION_MESSAGE);
```

Replace YOUR NAME with your actual name in the code.
Select menu File>Save All to save your work.

Important!

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.

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 Java code so that it has proper indentation and alignment.

Your Java code should always have proper indentation and alignment. To reformat:

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

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

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

Alternatively, you can select just part of the file and reformat it.

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

- a. In the left-side Project pane, select the HelloWorld.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

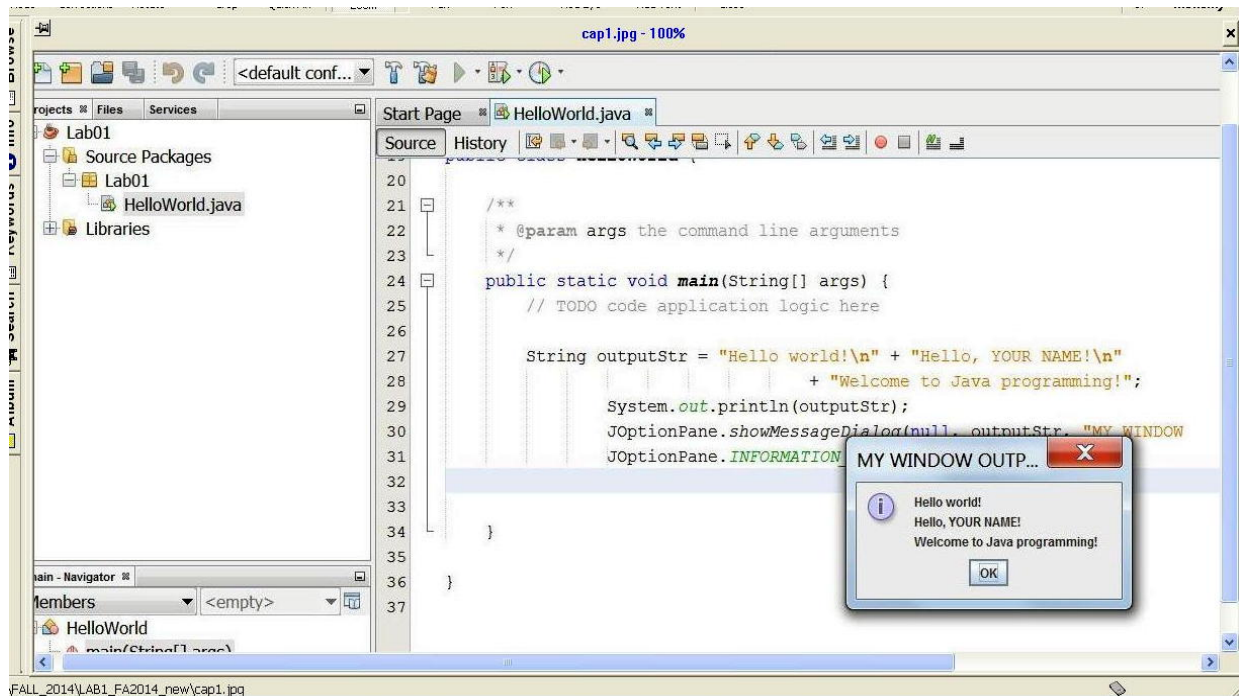
Fix errors and re-compile the program.

- 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. Select menu Run>Run Main Project.
OR
- b. Press the Run Main Project button on the tool bar.
OR
- c. Right-click on the HelloWorld file in the Project pane and select Run File from the pop-up menu.
OR
- d. Right-click on the Project node in the Project pane and select Run Project from popup menu.

The display windows should look like the following:



Notes

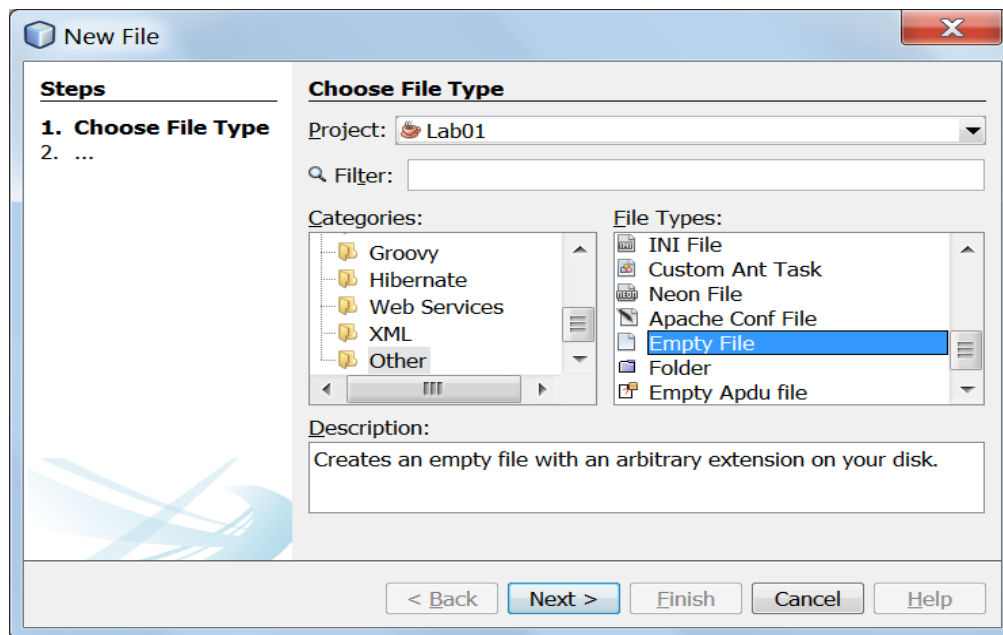
Remember that Java is case sensitive. So always be careful with regard to uppercase and lowercase characters in the names of files, folders, classes, packages, variables, etc.

To View organization of folders and files.

- In the left-side pane, select the Files tab. Expand the nodes of the folder/file hierarchy tree.
- Your source code files are in subfolders of the src folder.
- Your compiled files are in subfolders of the build\classes folder.
- The organization is shown in the window capture below.
- Note: You can view the file/folder organization using the File Explorer also. Be sure that you can find your files using File Explorer and that you understand the organization.

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

- a. 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. In NetBeans, in the left-side Files tab pane, select the project node (name).
- c. Select menu File>New File. In the New File dialog, in the Categories pane, select Other, and in the File Types pane, select Empty File. Then click the Next button.



- d. In the File Name slot, enter "runLab01A.bat" without the quotes. Then click the Finish button.
- e. The ".bat" is called the file name extension. A file with the ".bat" extension is called a "batch file". It is the same as what is known as a "shell script". A batch file can be executed from the operating system, independent of NetBeans, such as from within File Explorer or from the shell (in the Windows, the "Power Shell") or the command line (in a Command Prompt window).
- f. In the editor pane, enter the two lines shown in the window capture below.
- g. There are four parts to the first command line in the batch file shown below. Be sure to have a single blank space separating each of the four items in the first command line.

The four parts are:

i. The path to the Java interpreter in quotes.

The Java interpreter runs a Java application. The use of quotes is mandatory if any blank space characters are included in the text comprising the path.

It is important that you know how to find the correct path and version of the java interpreter on any given machine as different machines may have different versions of java installed

ii. The "-cp" item, which is short for "-classpath" (use either one).

This item specifies to the interpreter that the next item in the command line is the path (or list of paths) to the compiled files for the program. Do not put quotes around the -cp or -classpath text.

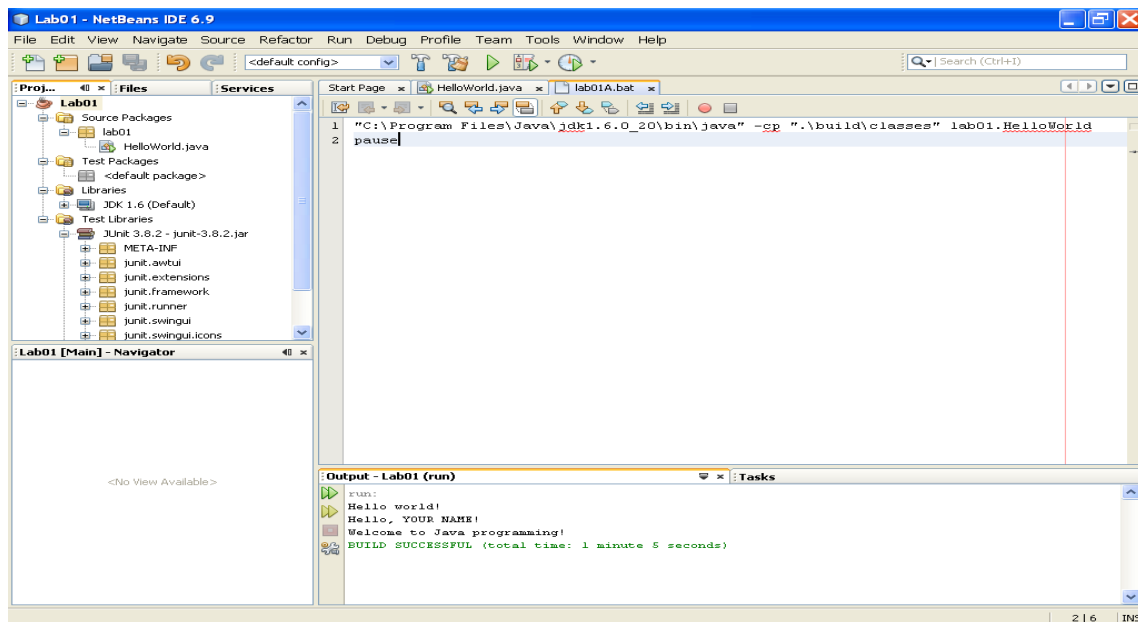
iii. A list comprised of one or more classpaths.

iv. The identifier for the Java program to run. The identifier consists of the package name, followed by the dot (period), followed by the Java class (file) name.

h. Select menu File>Save All to save your work.

In Windows Explorer, the type of this file must be "MS-DOS Batch File" and the extension on the batch file must be ".bat". To make the file name extensions visible in your File Explorer window, click (select) view, and check the File name extensions box. In the ribbon.

The following window capture shows the Netbeans display.



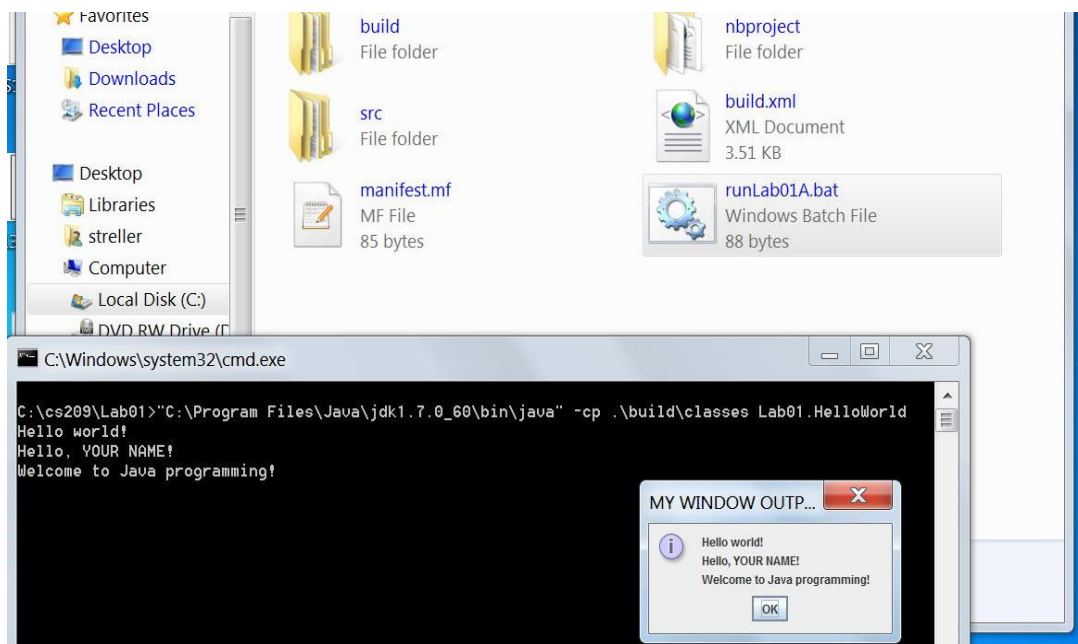
Execute program using your batch file

Execute the batch file to run your program. The different alternative ways to execute the batch file are:

1. 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.
2. Alternative 2: Double-click on the batch file icon in a Windows Explorer window.
3. Alternative 3: Select Run from the Start menu, and type in the path name for the batch file.

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

The results of running the program from the File Explorer are shown below.



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 (exactly as given to you).
- 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. Save the ReadMe document (file), **as a pdf** in your top level project folder.

Zip the project folder and all its contents.

- a. In Windows Explorer, navigate to the folder containing the project folder named Lab01, and select (highlight) the Lab01 folder.
- b. Select menu File>Send To, and select Compressed (zipped) Folder from the list.
- c. As a result, a new file named Lab01.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, without the quotes:

"LastName_ Lab_01A_cs209.zip".

Do not use spaces in the name of the file, use underscores instead.

NOTE

**compressed formats other
than .zip will not be graded**

Grading:

Send to streller@ecc.edu an email this the exact subject

cs209_ Lab_01A

by **Thursday 4 September 2014**

In this email attached the above named zip file

LastName_ Lab_01A_cs209.zip

The zip file containing your entire NetBeans project folder with all its subfolders and files.

The zip file must also include your batch file to run the program without using NetBeans. The batch file must be in your top level project folder

The zip file must include your ReadMe. A file that contains your name at the top, the lab number, any comments regarding the assignment, and window captures to show the program execution. The ReadMe file must be in the top level project folder.