Langara College

# Department of Computing Science & Information Systems

# CPSC1150 – Program Design

###### **Lab1: The First Java Programs**

**Objectives:**

* Get familiar with Langara computing environment
* Use a text editor and command line to create, compile, and run a Java program
* Learn to use an IDE to create, compile, and run a Java program
* Learn to use BrightSpace to download files and submit labs
* Learn to install Java JDK and an IDE to a home computer.

**Tasks [10 marks]**

1. Create new folders for this lab assignment
   1. Create a new folder **1150** under your C: drive or whichever you prefer.
   2. Create a new folder **Labs** under the folder 1150.
   3. Create a new folder **Lab1** under the folder Labs.
2. [5 marks] Use a text editor to create a Java source program and use the JDK to compile and run the program
   1. Open a text editor (for example, notepad) to create a Java program to display a message “Welcome to CPSC1150!” on the console (A console is the combination of command prompt display and keyboard). Name the class as **Welcome**. Your program should have good internal documentation. For information on internal documentation, refer to the Lab Guide. Note: no external documentation is required for this lab.
   2. Save the program as **Welcome.java** in your folder C:\1150\Labs\Lab1. (**Remember** that the file name must be the same as the class name)
   3. Open a command prompt and change to the folder C:\1150\Labs\Lab1

To open a command prompt, just search for **CMD**

To change to a different drive, type the drive name at the command prompt.

For example **D:>C:**

To change to a folder, type **cd foldername** at the command prompt.

For example **C:>cd 1150**

* 1. Compile the program. On the command line, type

javac Welcome.java

* 1. Run the program. On the command line, type

java Welcome

1. [5 marks] Use SciTE to create, compile, and run a Java program
   1. SciTE is a simple text editor. It has decent editing features, and it also enables you to compile and run Java programs from within it. For more information on using SciTE, refer to the Lab Guide.
   2. Open SciTE to create a Java program to displays the following pattern.

J A V V A

J A A V V A A

J J AAAAA V V AAAAA

J J A A V A A

* 1. To create a new file on SciTE, you may use the initial blank file, or click the menu item **File->New**. Name the class as **DisplayAPattern**. Your program should have good internal documentation. For information on internal documentation, refer to the Lab Guide. Note: no external documentation is required for this lab.
  2. Save the program as **DisplayAPattern.java** in your folder C: \1150\Labs\Lab1.
  3. Click the menu item **Tools->Compile** to compile the program.
  4. Click the menu item **Tools->Go** to run the program.

1. **Homework:** Install Java JDK and SciTE to your home computer (submission is NOT required)
   1. Go to the following location to download the latest Java JDK

<http://www.oracle.com/technetwork/java/javase/downloads/index.html>

* 1. Click the Java Download button for Java Platform (JDK).
  2. Check the Accept License Agreement box and then download the installation file depending on the Operating System of your computer.
  3. Open the downloaded file and follow the instructions to install Java JDK to your computer.
  4. Set the path so that you can run the Java compiler **javac** and run your Java class.

In order to set the path, you need to edit your Environment Variables. The steps shown below is for **Windows 10**. For other OS, the steps may be different.

* + - 1. Right-click **This PC**, then **Properties**.
      2. Click **Advanced** **system settings**.
      3. Click the **Environment Variables…** button.
      4. In the Environment Variables dialog box, go to the top section called User variables.
      5. If you already have a variable called **Path**, select the line for Path and then click the **Edit** button. Add a new line and then copy and paste the JDK bin path to this new line, which is like the following

C:\Program Files\Java\jdkxxx\bin

* + - 1. If you do not have a Path variable, then click the **New** button, Type Path in the Variable name field, and copy and paste the path given above to the **Variable value** field. Click OK.
      2. Click OK to close the Environment Variables dialog box.
      3. Click OK to close the System Properties window.
  1. Create a simple Java program and test your Java JDK as you did in the school
  2. Download SciTE.

Go to the following location to download the latest SciTE

<http://scintilla.sourceforge.net/SciTEDownload.html>

Click the link **full download** under the section Windows Executables. Save the zipped folder to your local hard disk.

* 1. Run the downloaded file and install SciTE

Unzip the zipped folder. Make sure you extract the files to C:\Program files.

* 1. Test-run SciTE.

Go to C:\Program files\wscite. You should see the file **SciTE.exe**. Double-click it to open SciTE. From SciTE, open a Java program, compile, and run it.

**What to hand in**

Upload all the Java source files from this lab to BrightSpace (D2L).

**When to hand in**

By 10:29 am, Monday, Jan 18, 2021