

Java Language

Engi- 5895

Lab 1

Hafez Seliem

Faculty of Engineering & Applied Science
Memorial University of Newfoundland

What's Eclipse?

- It is a free software / open source platform-independent software framework for delivering what the project calls "rich-client applications". Eclipse is also a community of users, constantly extending the covered application areas.
- Eclipse was originally developed by IBM as the successor of its VisualAge family of tools.
- Eclipse is now managed by the Eclipse Foundation, an independent not-for-profit consortium of software industry vendors.

Installing Eclipse

- Download free of charge from www.eclipse.org
- Eclipse is installed by default in all of the on-campus computers.

Installing eclipse

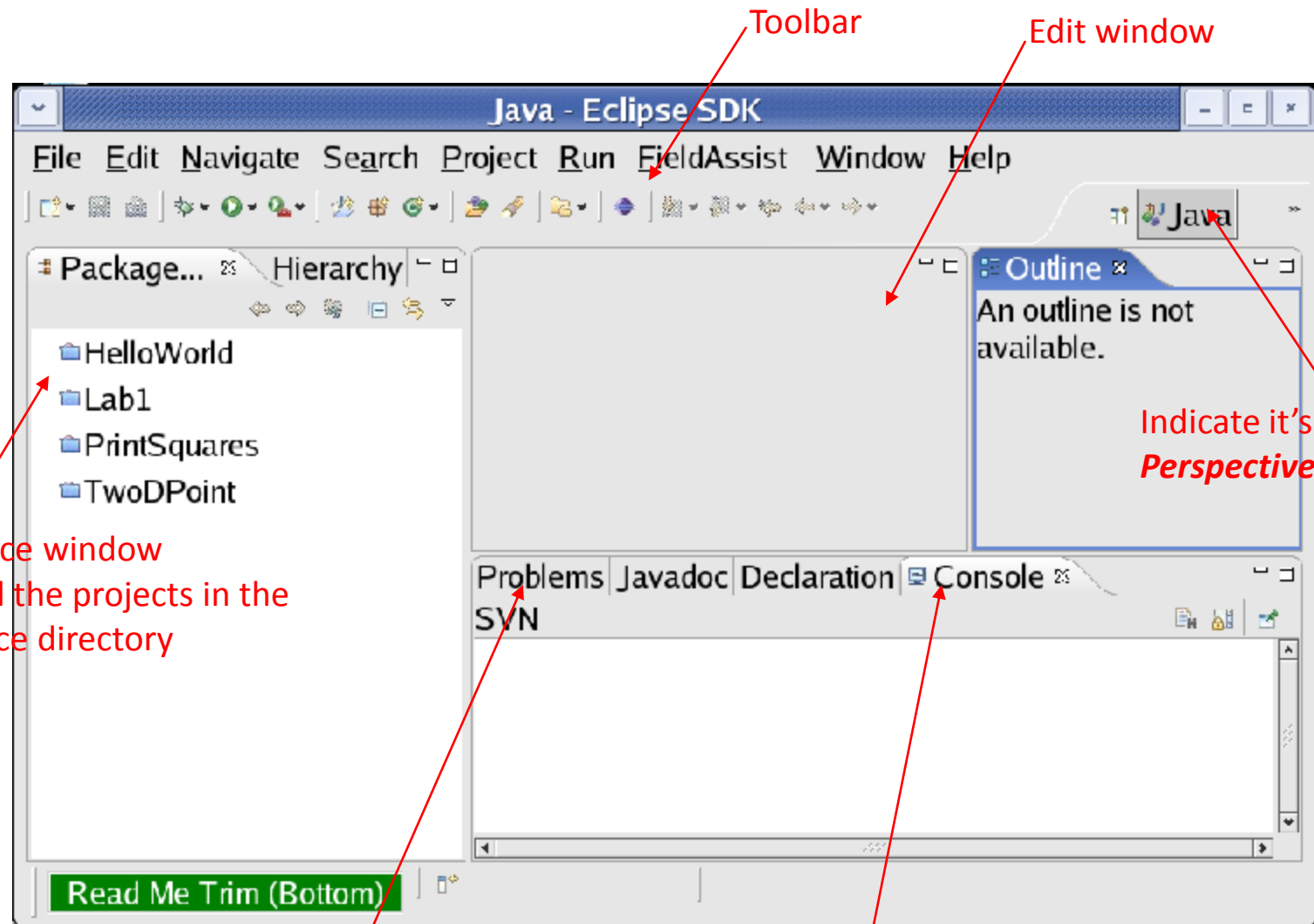
- Note: You can skip this step on the school computer, since Java and eclipse are already installed on it
- Prerequisite for eclipse: You need the Java Runtime Environment (JRE) in order to use eclipse
 - More than likely the JRE is already installed on your computer
 - If not, click on this link and follow the instructions:
[Download JRE](#)

Eclipse start

- Step 1: Open Eclipse, choose your workspace



Overview of Eclipse Java Perspective

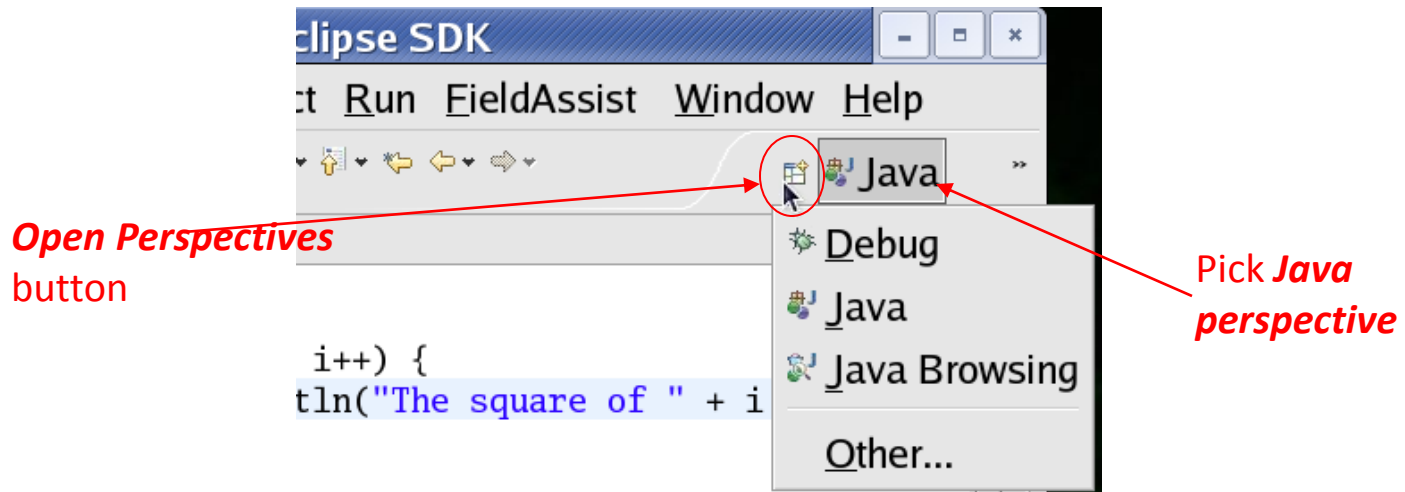


Workspace window
shows all the projects in the
workspace directory

Compilation outputs

Console outputs

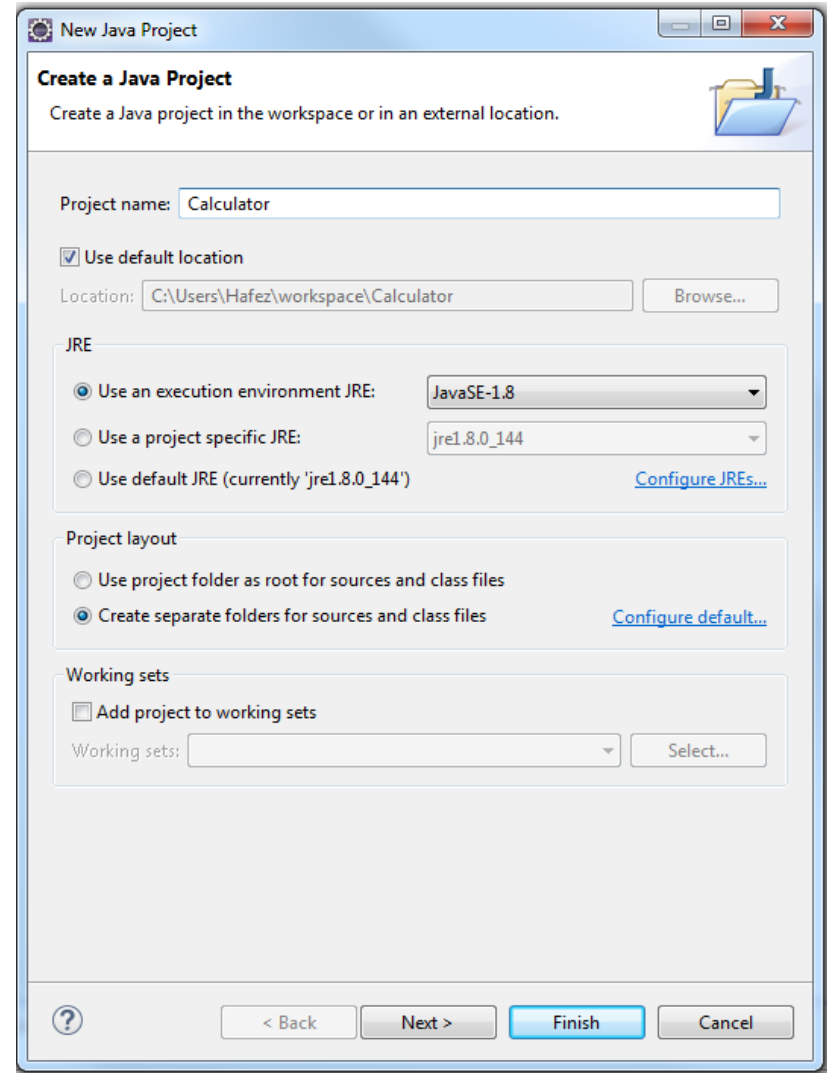
- Choose a perspective (the layout of Eclipse user interface).
 - Open *Java perspective* (an interface for editing java source code): click *Open Perspective* button > click *Java*.



- *Debug Perspective* (an interface for debugging the program).

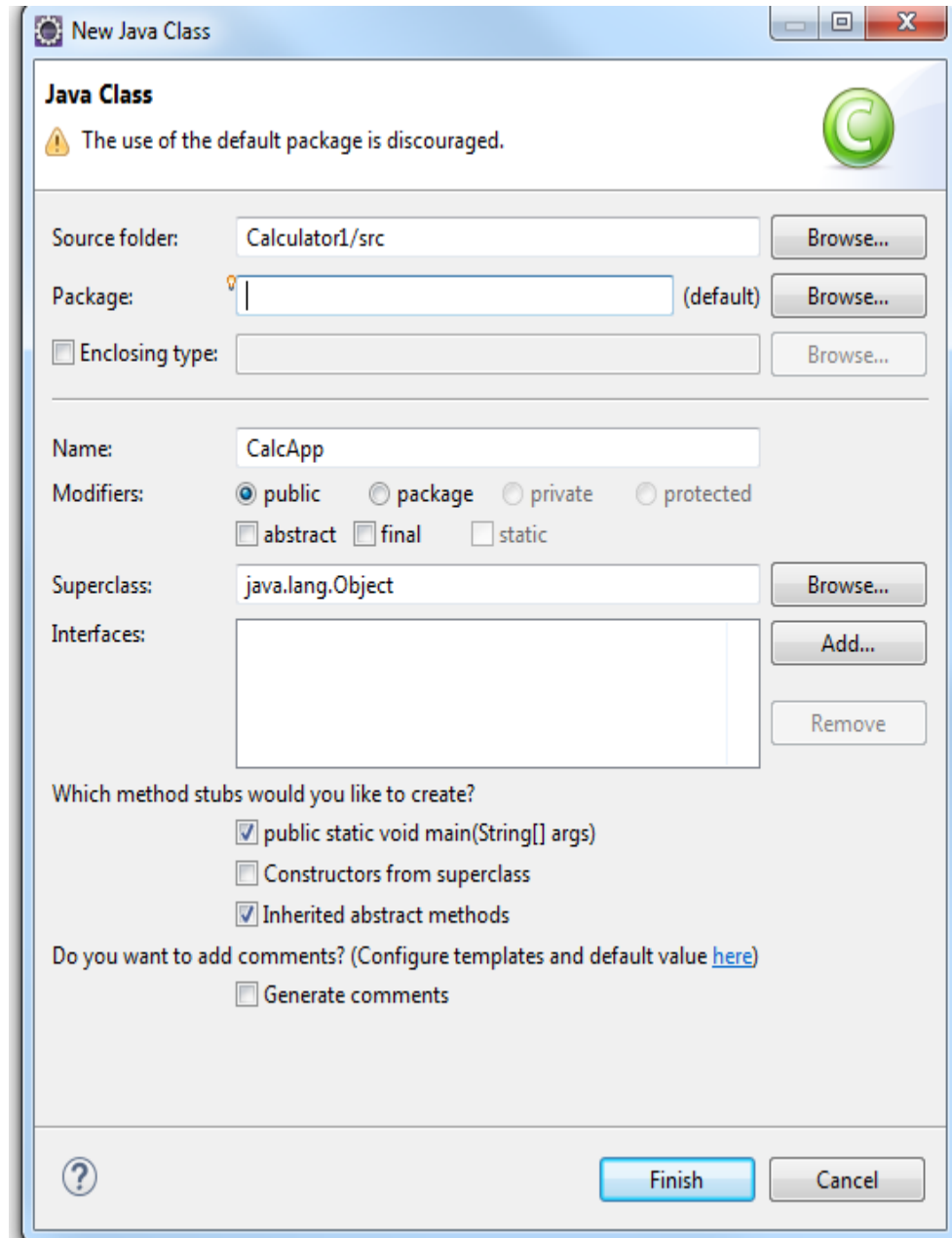
Create project

- On the Menu select “File / New / Project ...”.
- Select “Java Project” and click “Next”.
- Set “Project Name” to “Calculator”
- Set the execution environment to JavaSE-1.8.
- Click Finish.



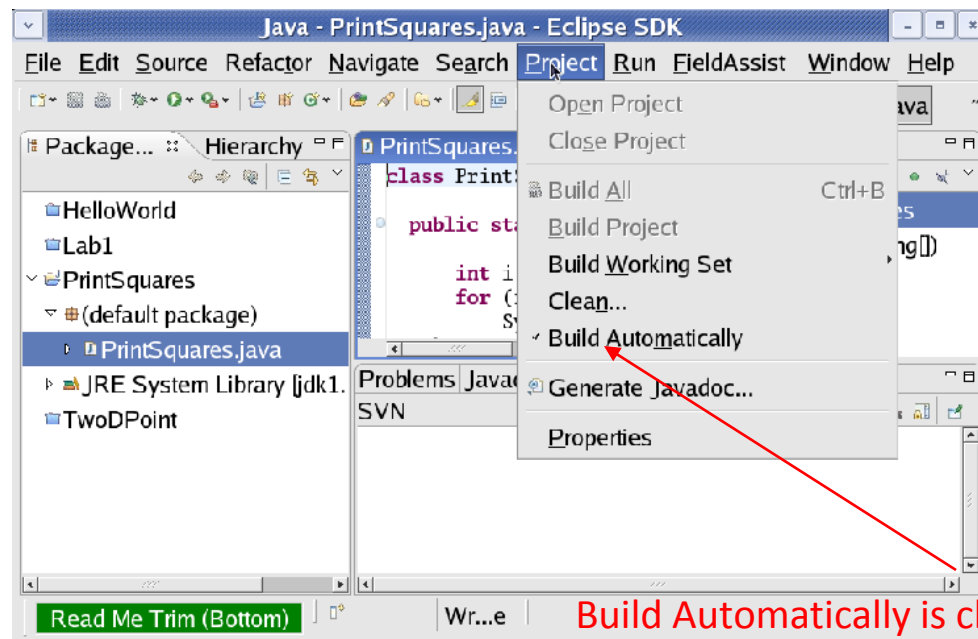
Create a class

- Right-click on the Calculator project
 - On the context menu select “New / Class
 - Set name “CalcApp”
 - Select public static
- Void main



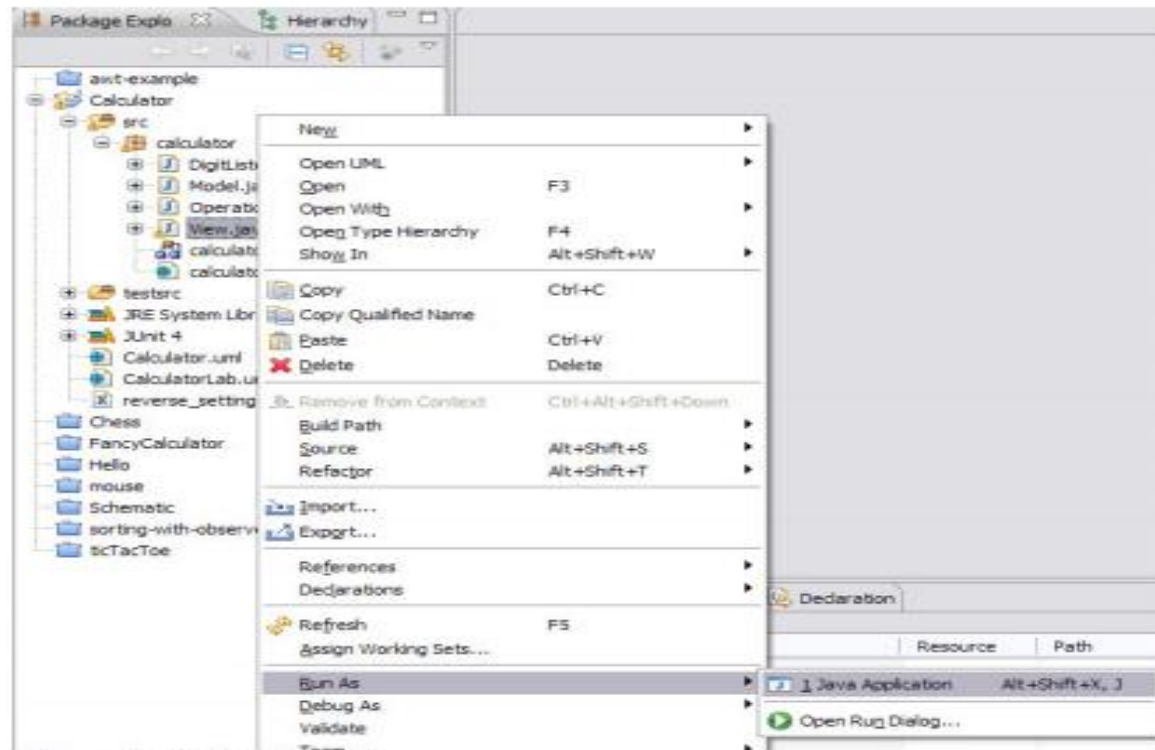
Compile the program

- If ***Build Automatically*** is checked, the program will be automatically compiled whenever you save the program.



Run the program

- In the Package Explorer, right click on the file that has the main function.
- On the popup context menu, select 'Run As / Java Application'



Try your first java program

- **Simple-command-line-calculator**
 - **Arithmetic functions:** +, -, /, *.
 - Ask user to enter two number
 - Ask user to enter the operation
 - Display the result for the user
 - After you finish, improve your code by separating the main function from the model code (create “Operation” class that has (add, sub, multiply, sum) methods).

More to try

- **Simple-command-line-calculator**
 - **Arithmetic functions:** add, sub, mult, div, each taking two arbitrary expressions as arguments.
 - For example

Input	Output
<code>add(1, 2)</code>	3
<code>add(1, mult(2, 3))</code>	7
<code>mult(add(2, 2), div(9, 3))</code>	12