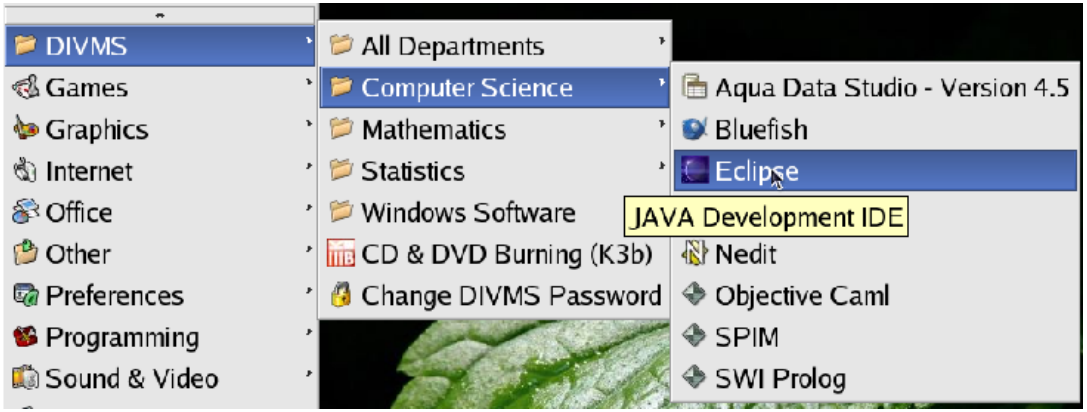
Introduction to Eclipse

Start Eclipse

- Click  and then click ***Eclipse*** from the menu:



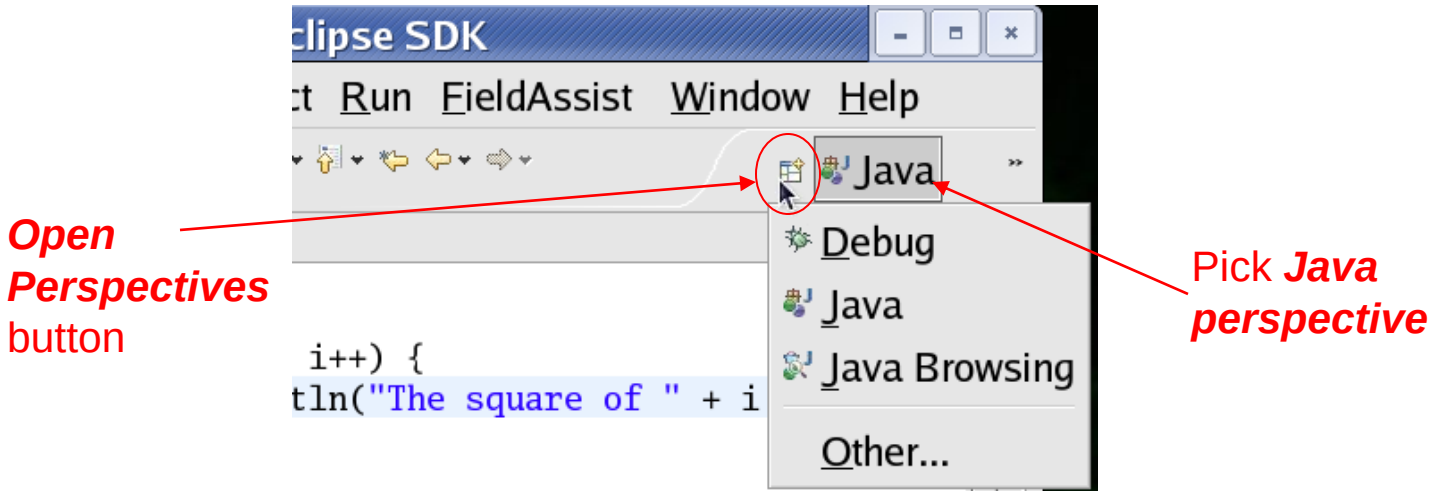
- Or open a shell and type ***eclipse*** after the prompt.

Initialize Eclipse

- Choose a workspace (a directory used by Eclipse to store your programs)
  - When you first start Eclipse, Eclipse will ask you to specify the workspace to use.
  - Accept the default workspace provided by Eclipse or specify an existing directory as the workspace.

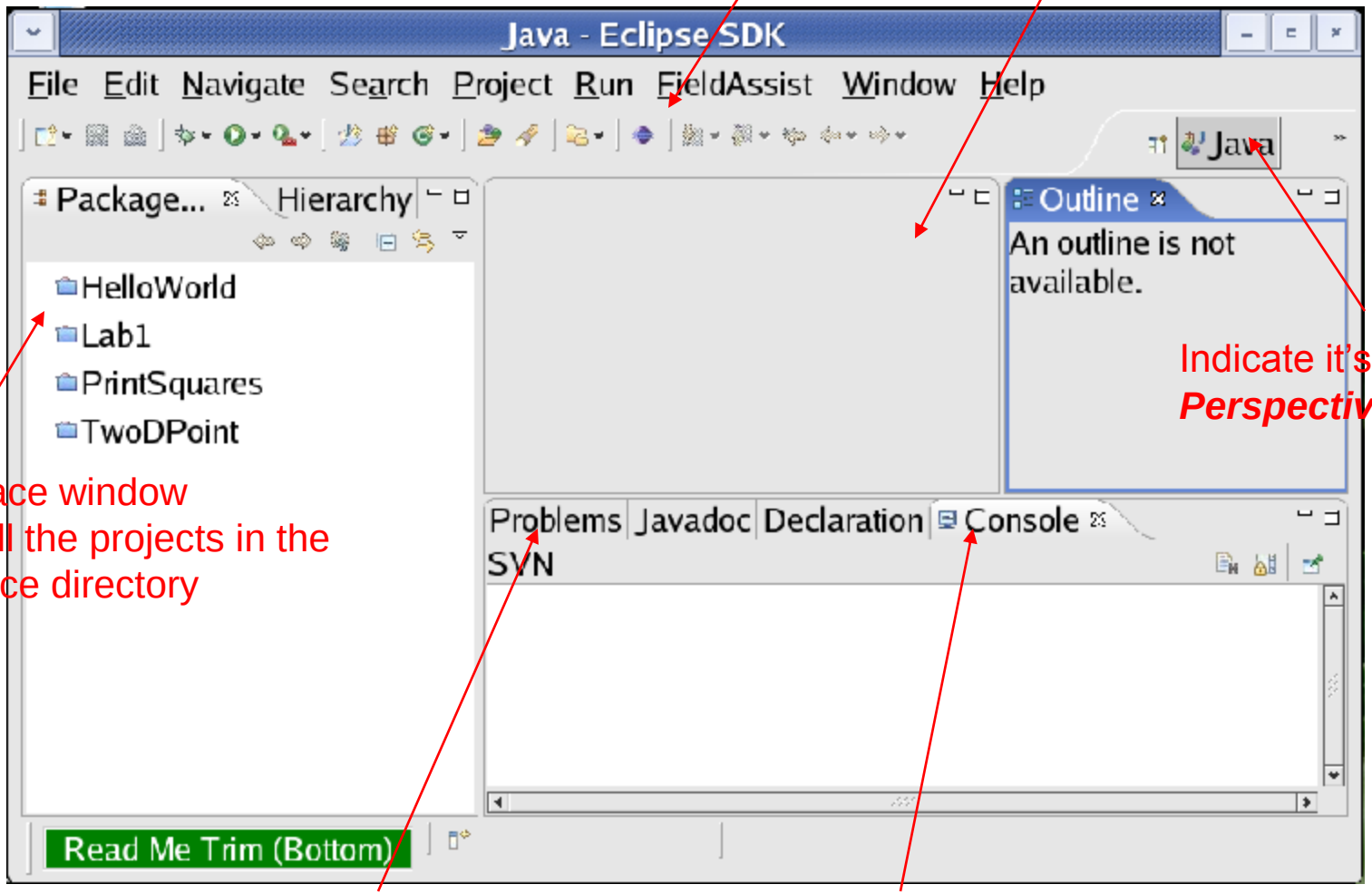
- Choose a perspective (the layout of Eclipse user interface).

  – Open ***Java perspective*** (an interface for editing java source code): click ***Open Perspective*** button > click ***Java***.



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

Overview of Eclipse Java Perspective



Load an Existing Java Program

1. Open ***Home Folder*** and find the Workspace directory you use for Eclipse.

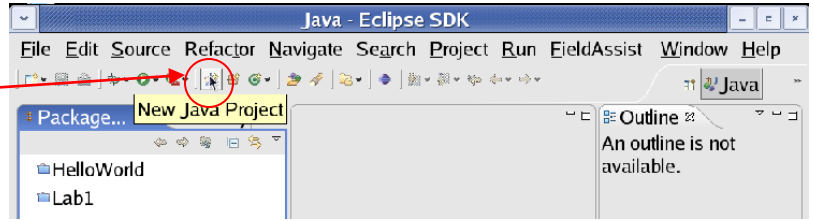
2. Create a folder named ***PrintSquares*** (or any other name you prefer) under the workspace directory.

3. Download **PrintSquares.java** from Lab1 Document to ***PrintSquares*** folder you just created.

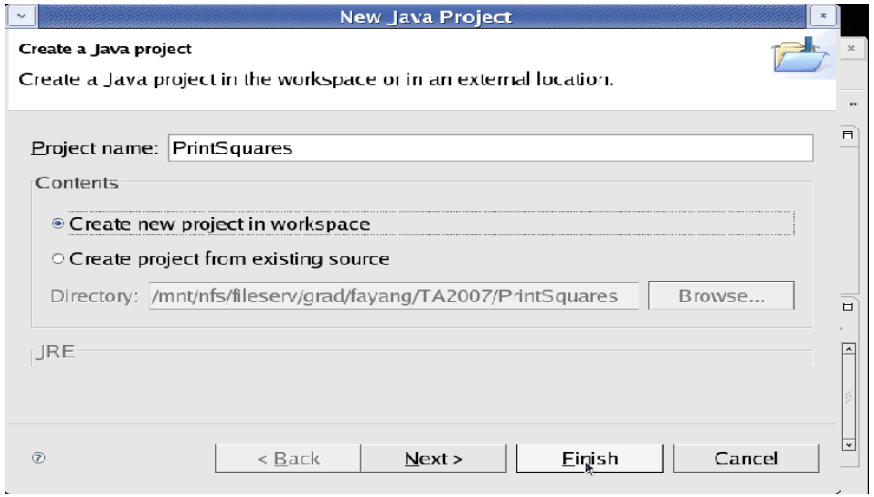
4. In Eclipse create a project named ***PrintSquares***.

- Click ***New Java Project*** button.

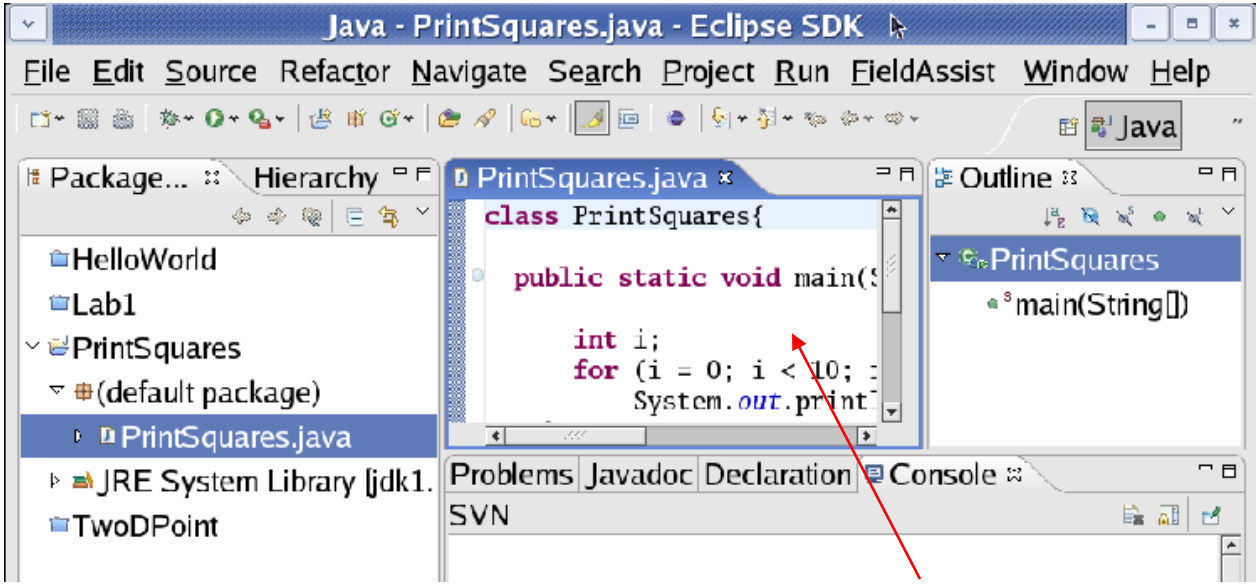
New Java Project button



- Type ***PrintSquares*** as the project name and then click ***Finish*** button.

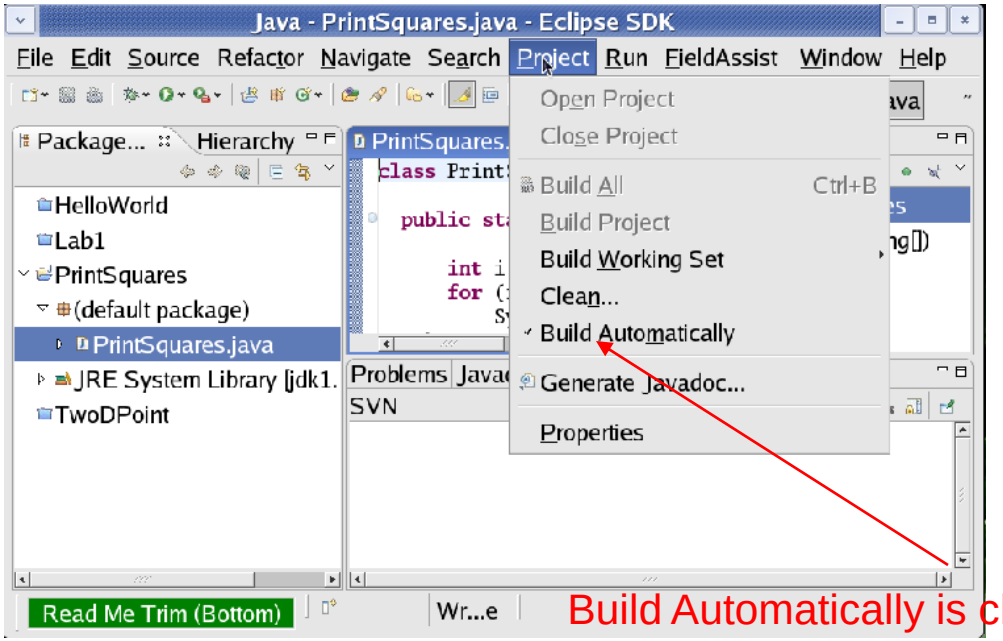


5. In Workspace window double click ***PrintSquares***, then ***(default package)***, and then ***PrintSqaures.java***. The source code of ***PrintSquares.java*** is shown in **Edit** window.



Compile the program

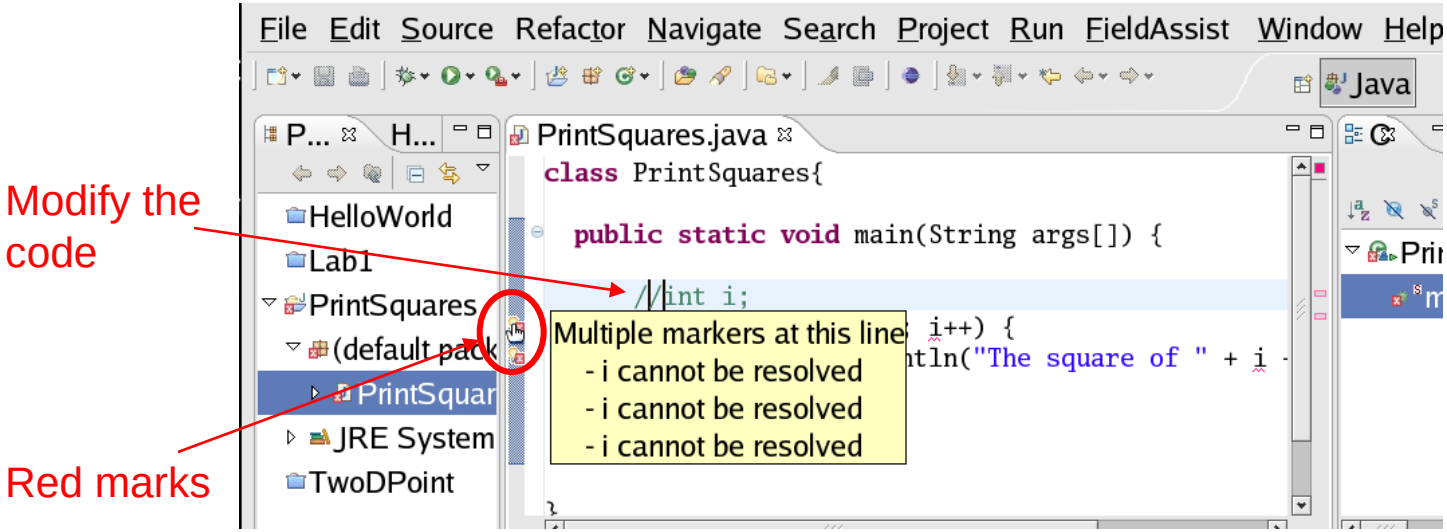
- If ***Build Automatically*** is checked, the program will be automatically compiled whenever you save the program.



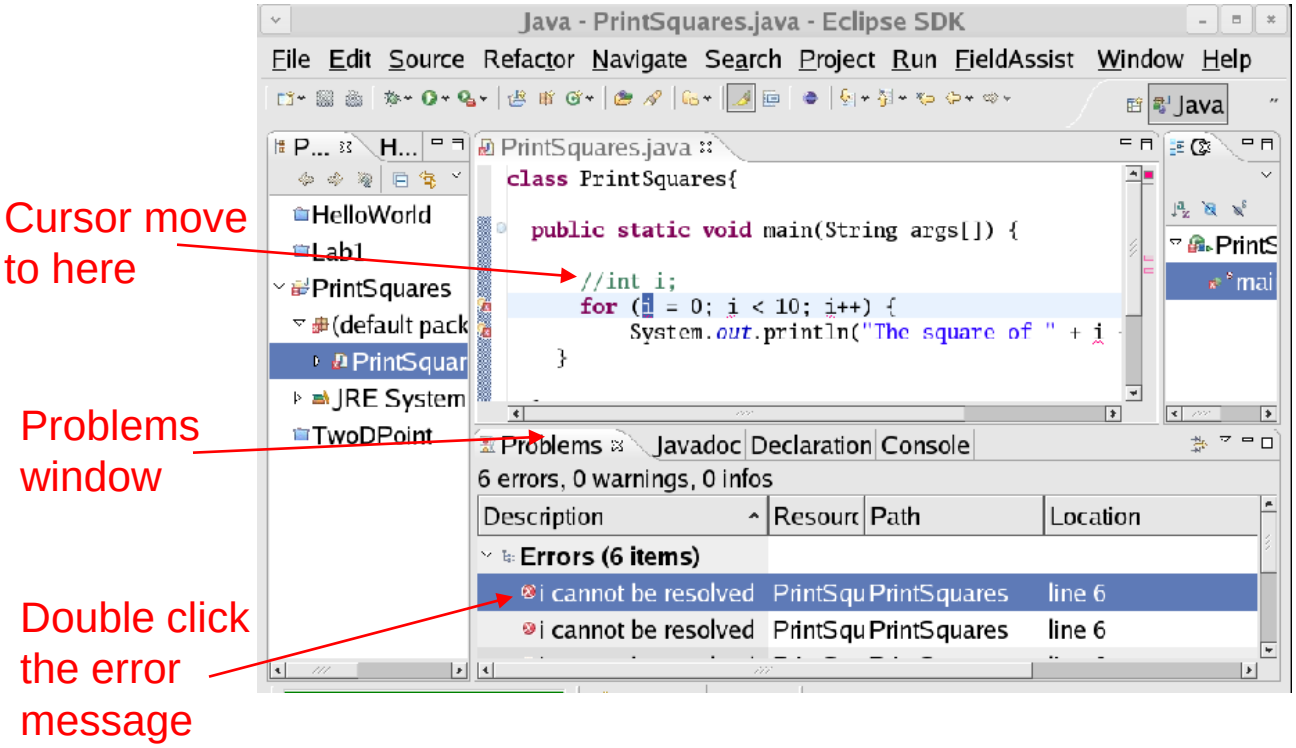
1. Modify “PrintSquares.java” source code as follows:

int i; Change to //int i;

2. The red marks on the left side of ***Edit*** window indicate that there are errors in ***PrintSquares.java***. Move the cursor over a red mark to see the error message.



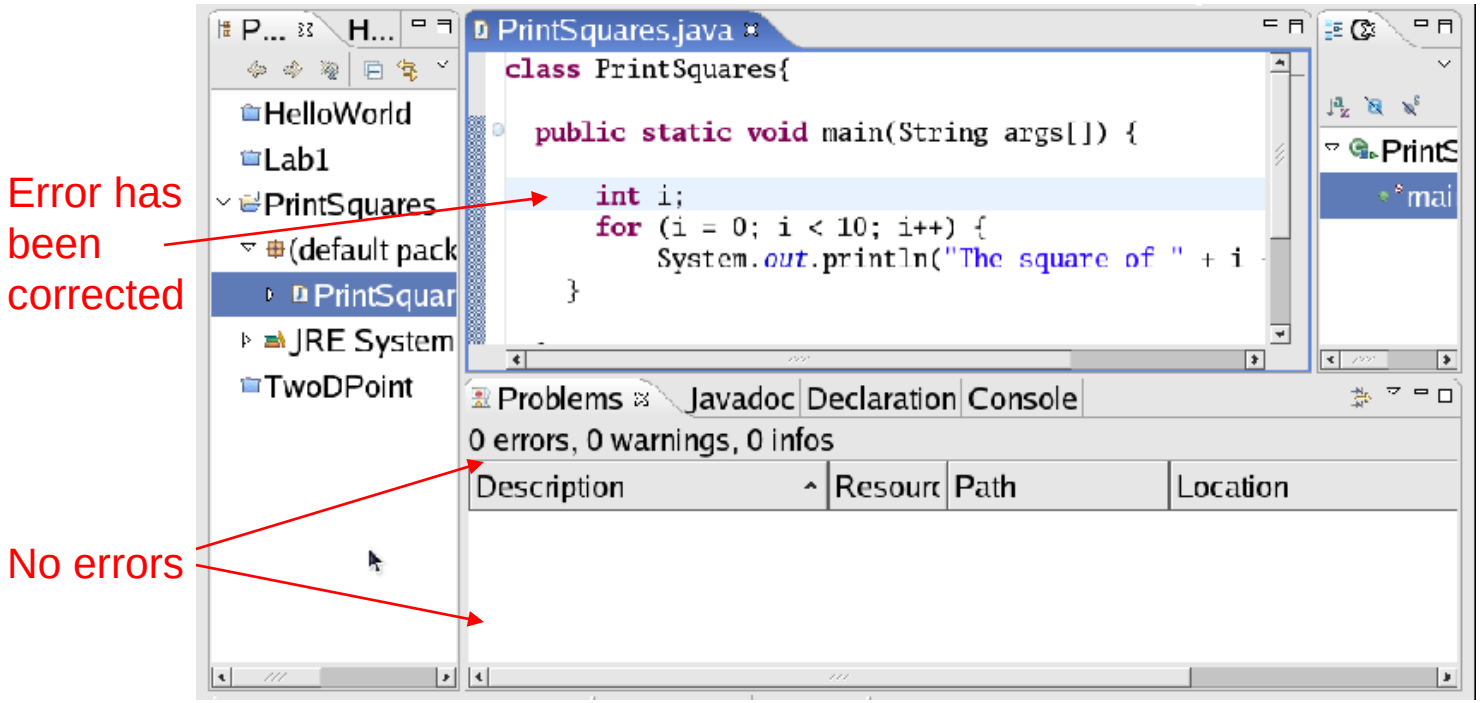
3. Click ***Save*** button on the ***toolbar*** to compile the program. ***Problems*** window shows the errors in the source code. Double click an error message and the cursor in ***Edit*** window will automatically move to the line in the source code where the error appears.



4. Correct ***PrintSquares.java*** source code as follows:

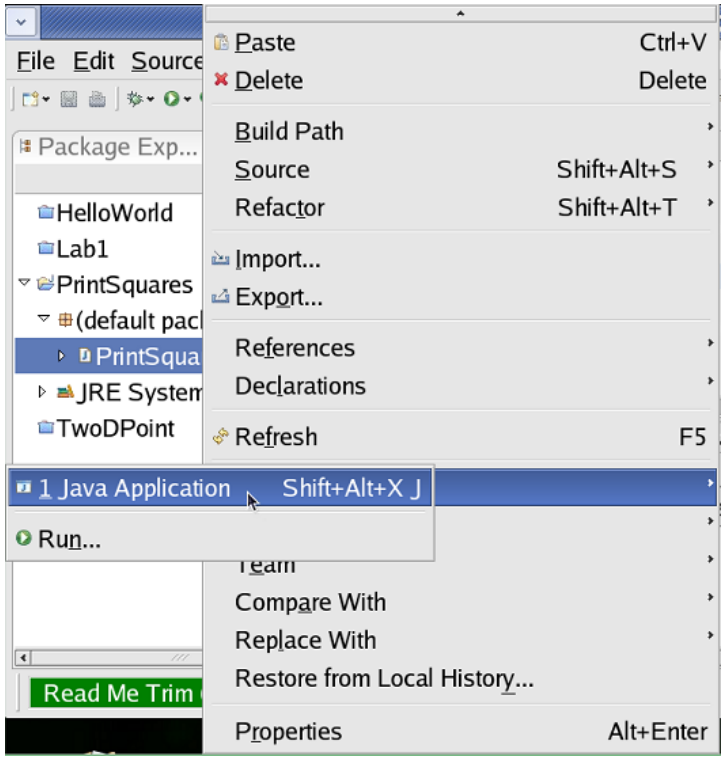
//int i; Change back to → int i;

5. Click ***Save*** button to compile the code again.

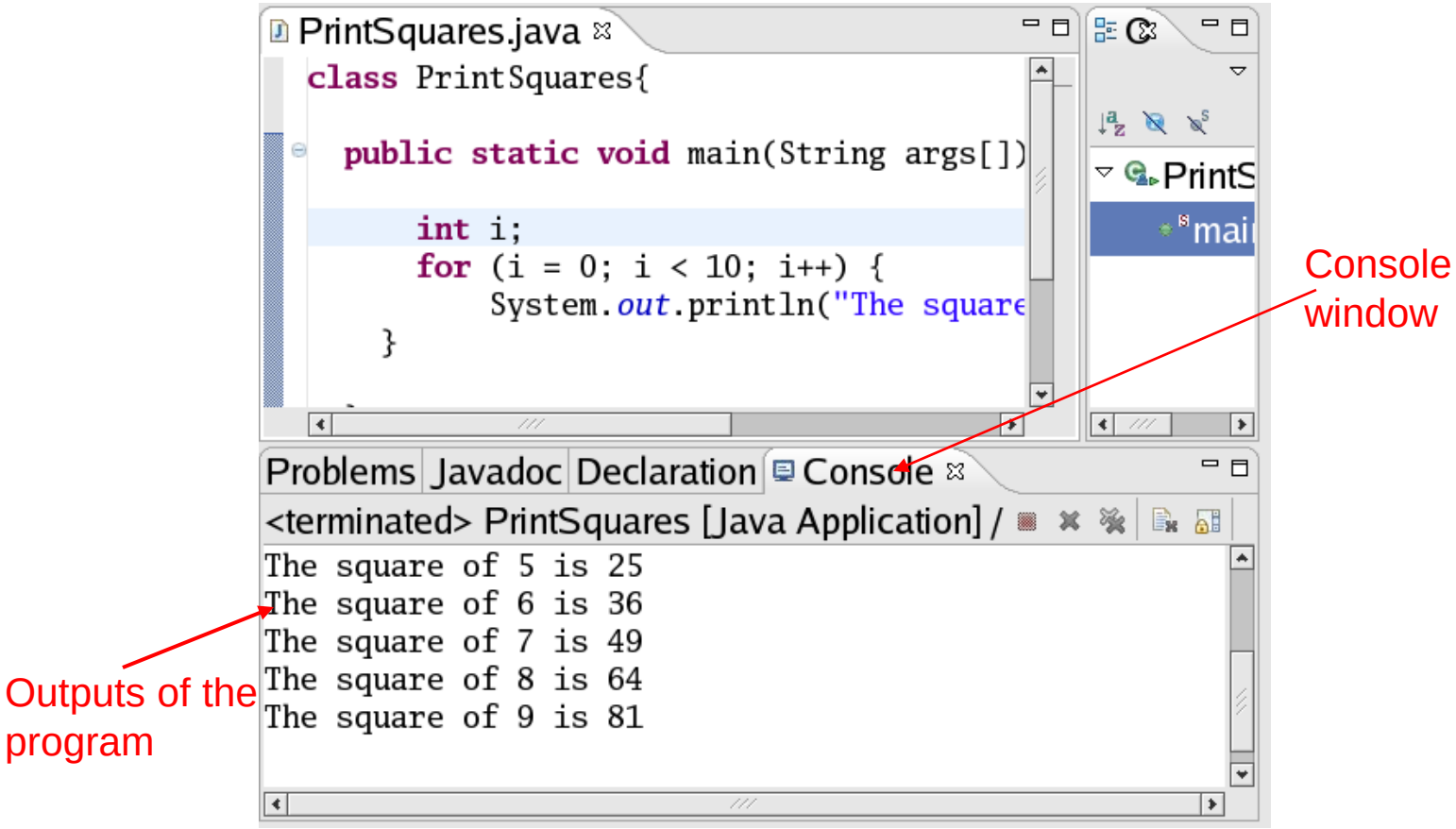


Run the program

1. Right click ***PrintSquare.java*** in ***Workspace*** window and select ***Run As> Java Application***.

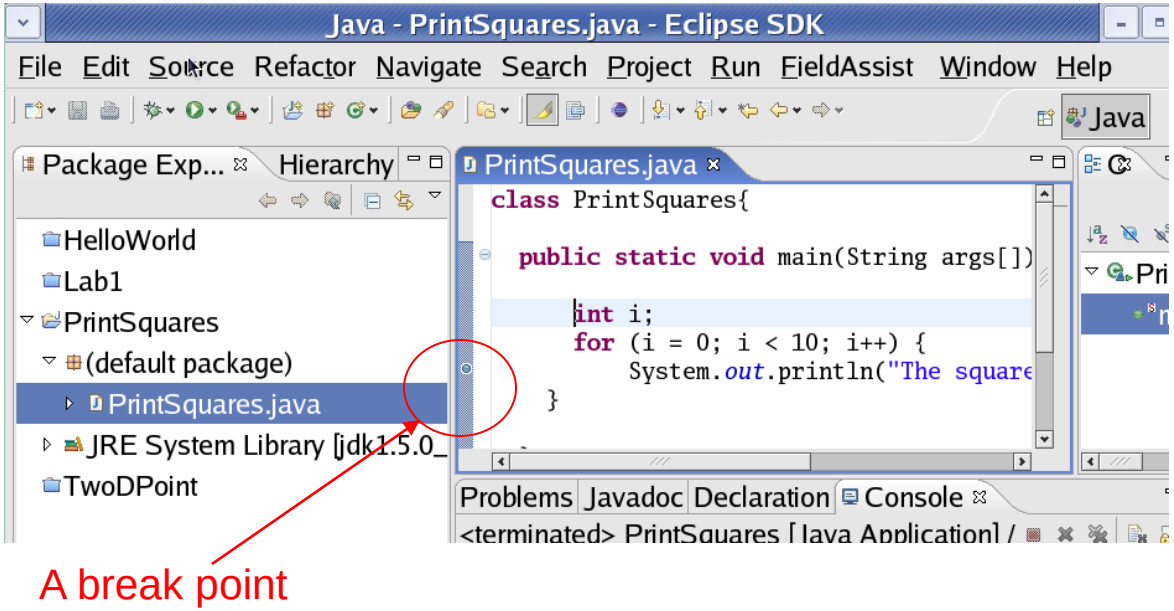


2. ***Console*** window shows the outputs of the program.

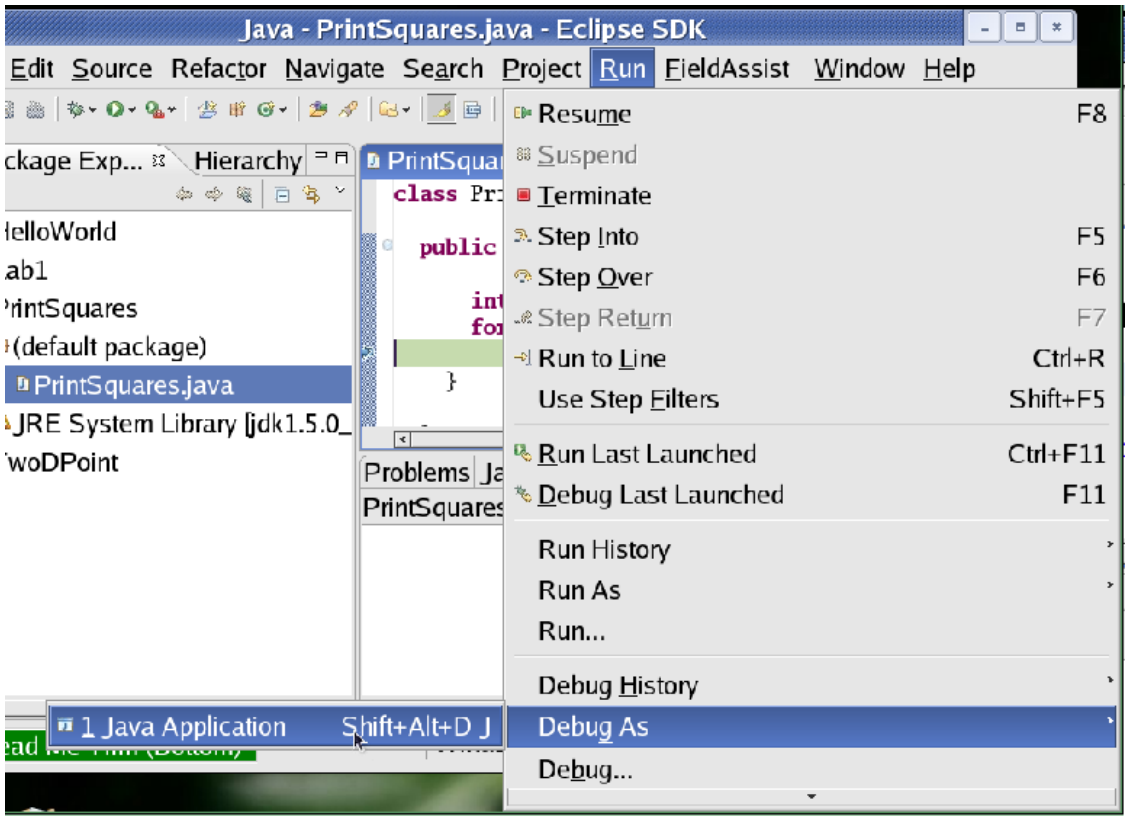


Debug a Program

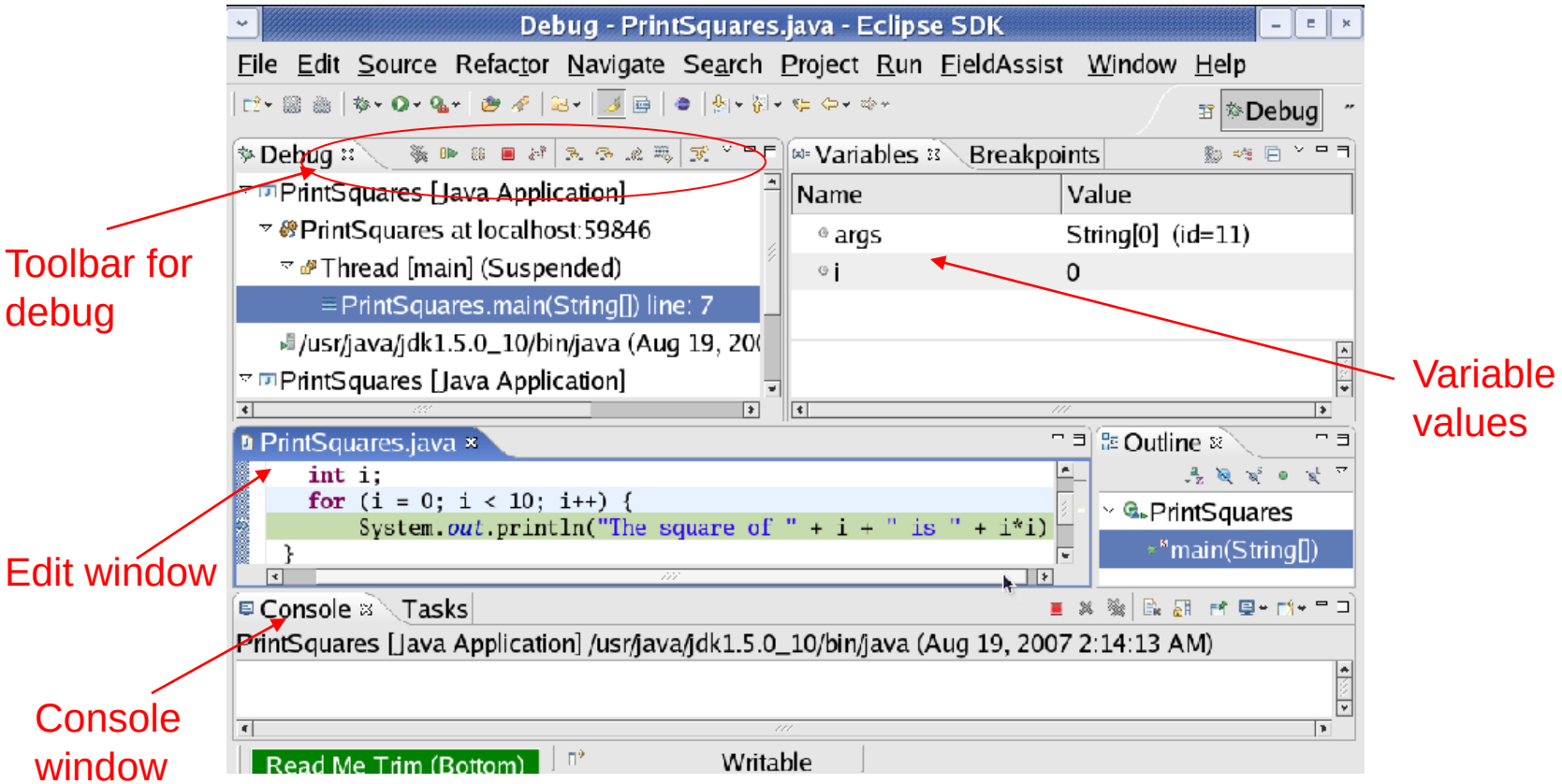
1. Add breakpoints: double-click the gray bar on the left of ***Edit*** window. A blue dot indicates a breakpoint. To remove a break point, double click the breakpoint.



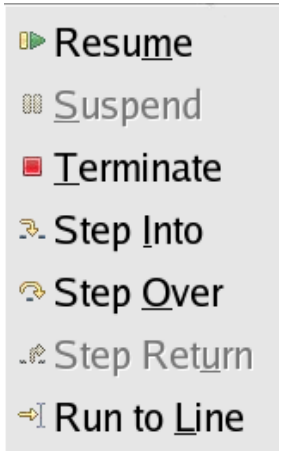
2. Select ***Run->Debug as...->Java Application*** to start the debugger.



3. Click **Yes** button in ***Confirm Perspective Switch*** window to switch Eclipse from ***Java Perspective*** to ***Debug Perspective***.



4. Play with the debug commands and watch the change of variable values in ***Variable*** window and the outputs in ***Console*** window.



Resume resume the execution of a paused program.

Suspend temporarily pause the execution of a program.

Terminate end the current debug session.

Step Into execute a single statement or step into a method.

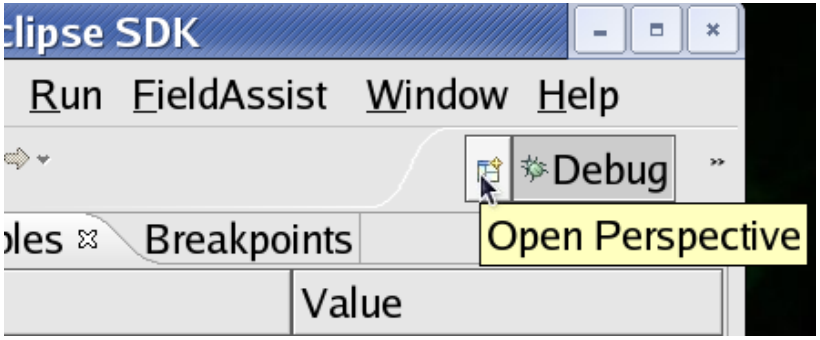
Step Over execute a single statement. If the statement contains a call to a method, the entire method is executed without stepping into the method.

Step Return execute all the statements in the current method and returns to its caller.

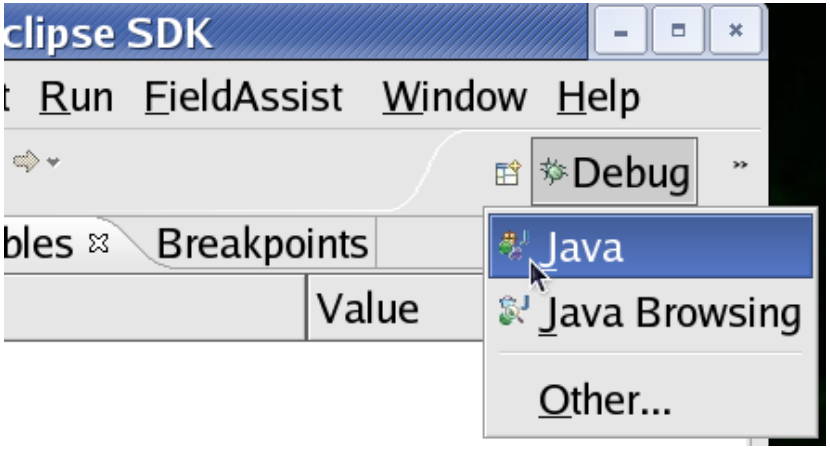
Run to Line runs the program, starting from the current execution point, and pauses at a breakpoint.

5. Switch Eclipse from ***Debug Perspective*** back to ***Java Perspective***.

– Click ***Open Perspective*** button.

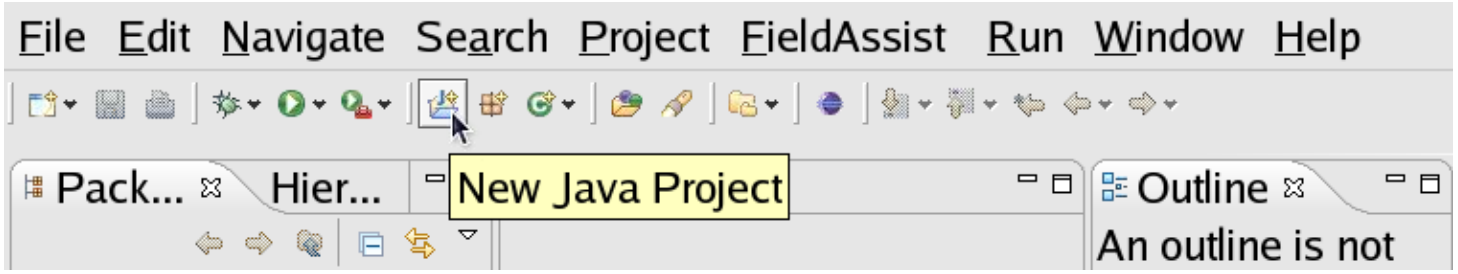


– Then click ***Java***.

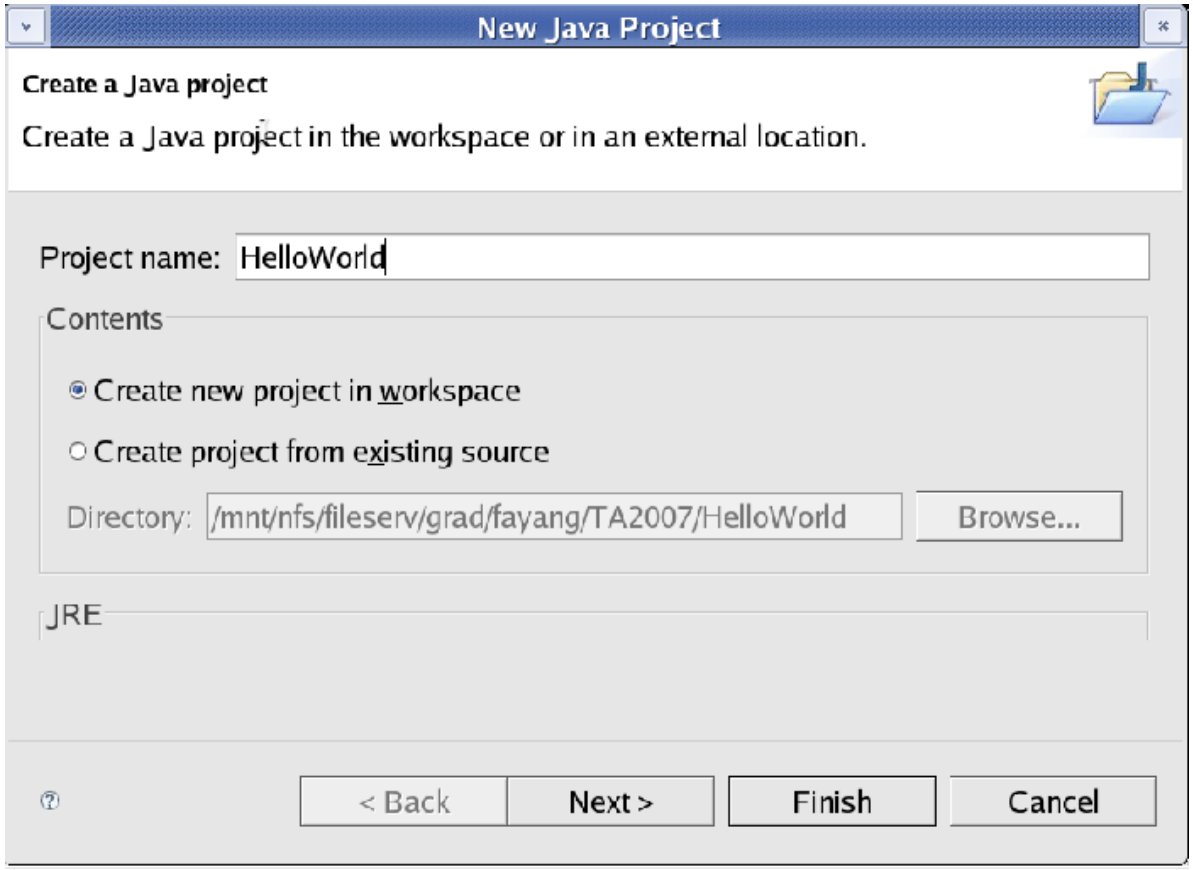


Create A New Java Application Example: create a HelloWorld java application

1. Create a new project named ***HelloWorld***.
   - First click ***New Java Project*** button.

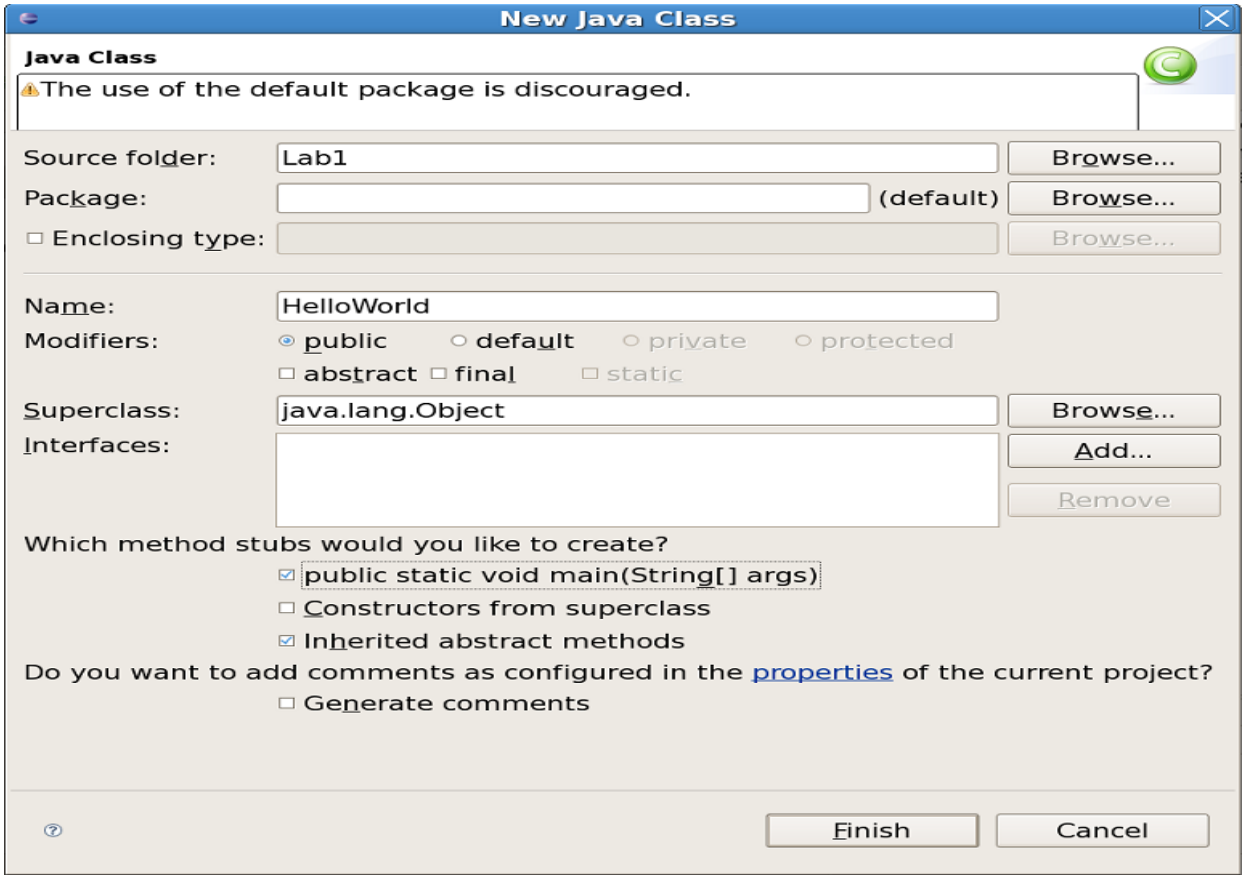


- Then in ***New Java Project*** window input the project name as ***HelloWorld*** and click ***Finish*** button.

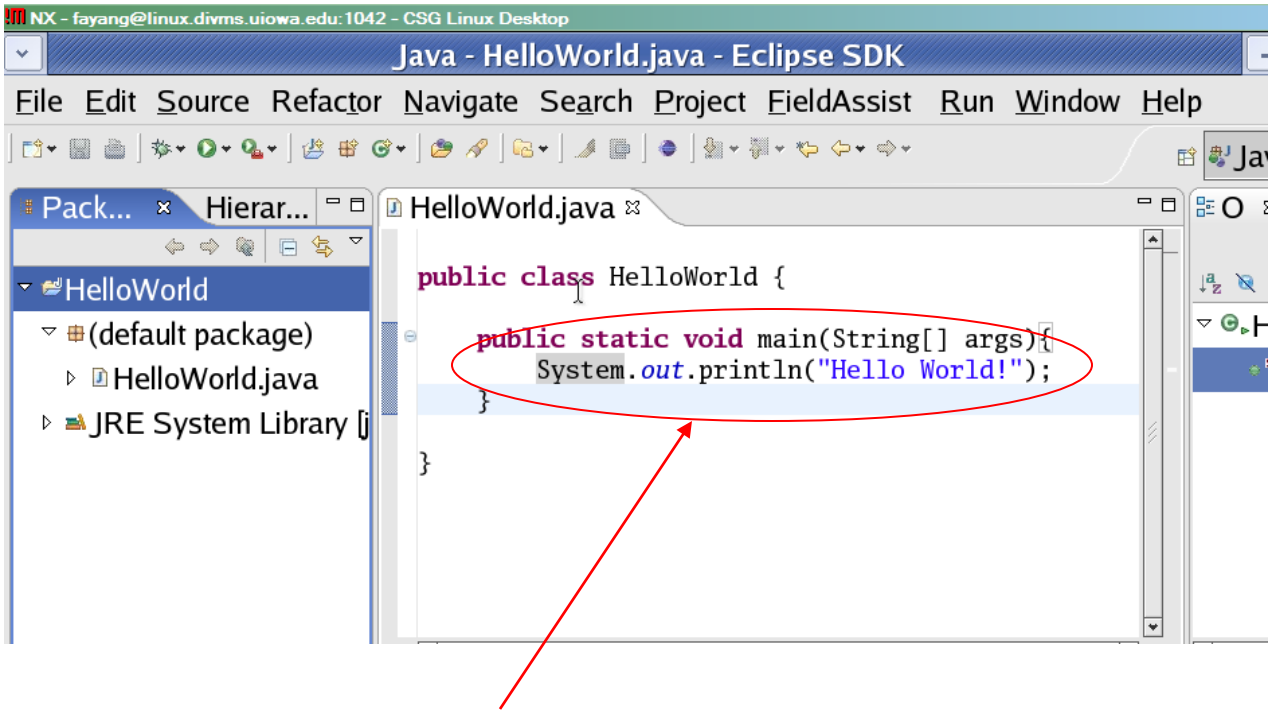


2. Click ***New Java Class*** button to create a Java class.

– In ***New Java Class*** window, input ***HelloWorld*** as the name and check the box "public static void main (String[] args)" if you want a main method.



4. Modify ***HelloWorld.java*** source code as follows:



Add ***System.out.println("Hello World");***
inside ***Main*** method.

5. Follow the instructions in the previous slides to compile and run the ***HelloWorld*** program.