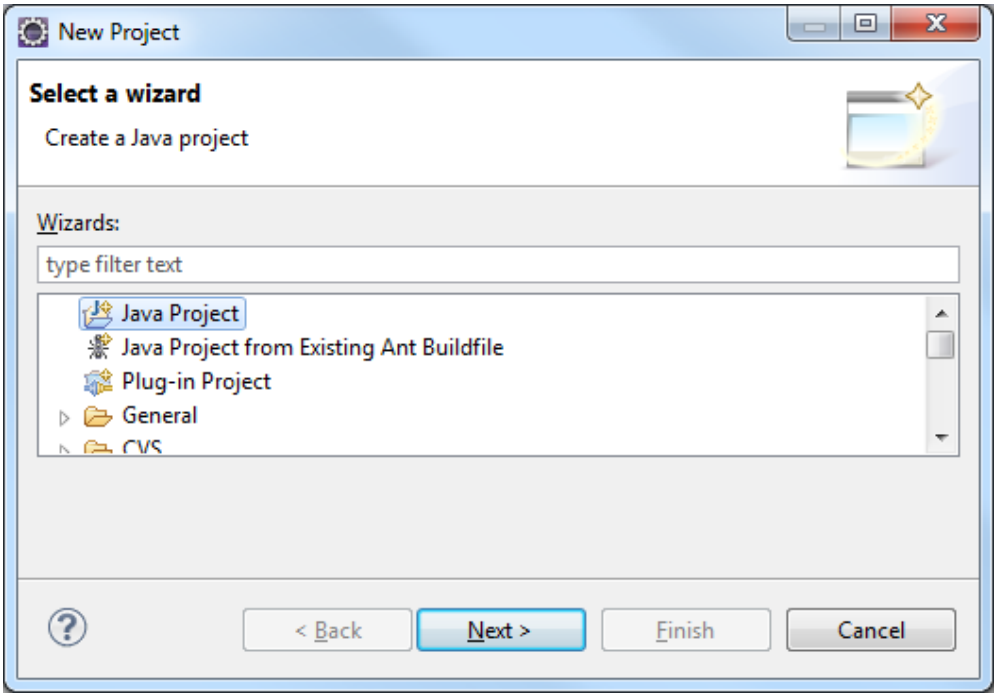
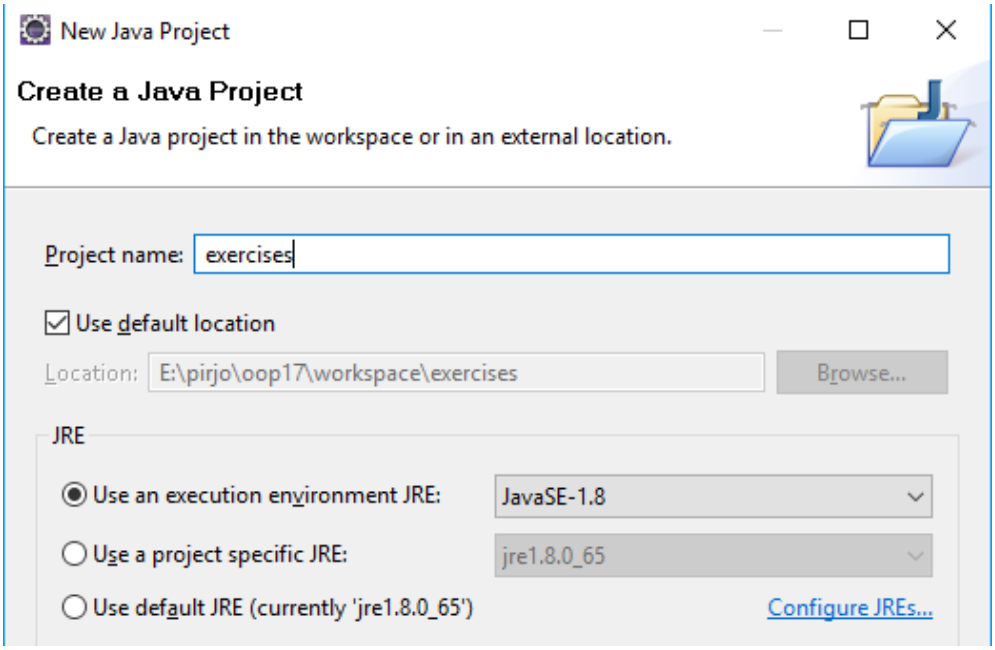
Assignment 1

Exercise 1.1: Eclipse: New project, new class, writing and running a program

- When Eclipse starts, you define your **Workspace** which is the directory for projects (if you use VAMK's computer, workspace should be in U-drive)
- Create a new **Java Project**

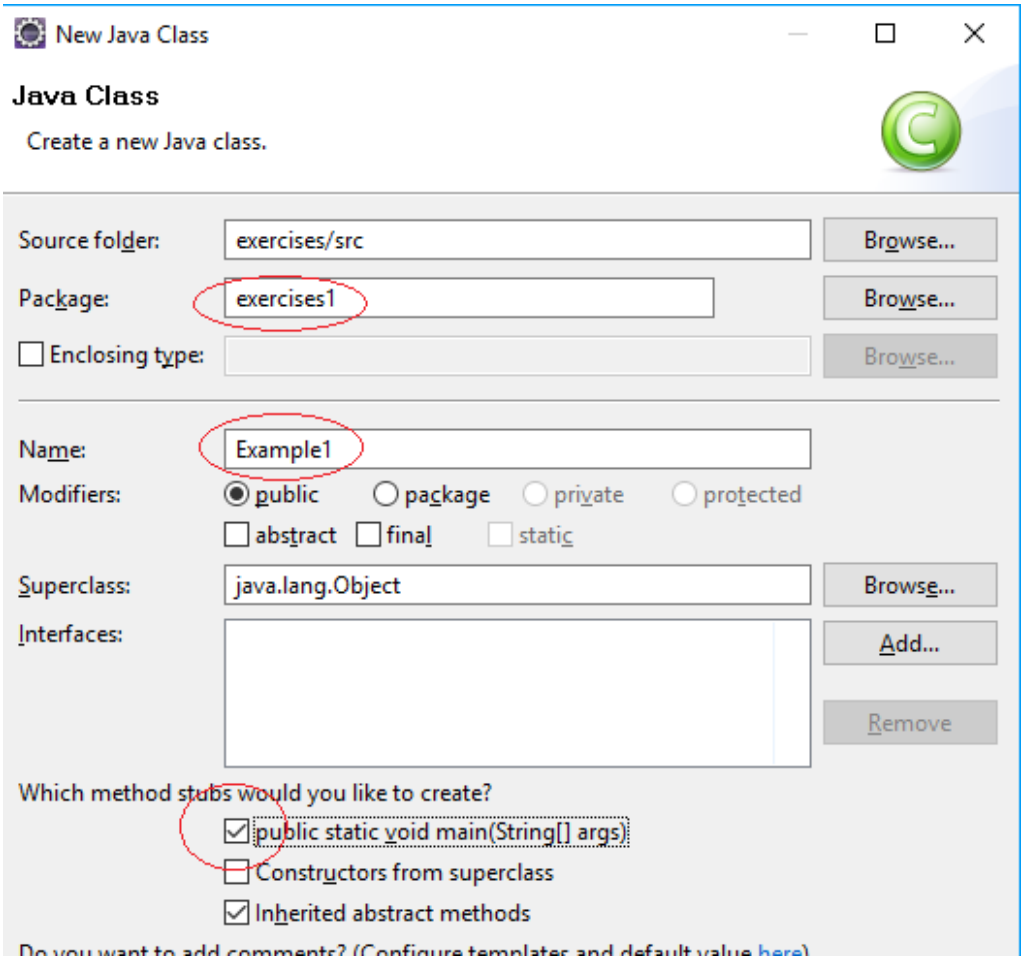


- Give a name to your project and check the Java version (must be at least 1.8)

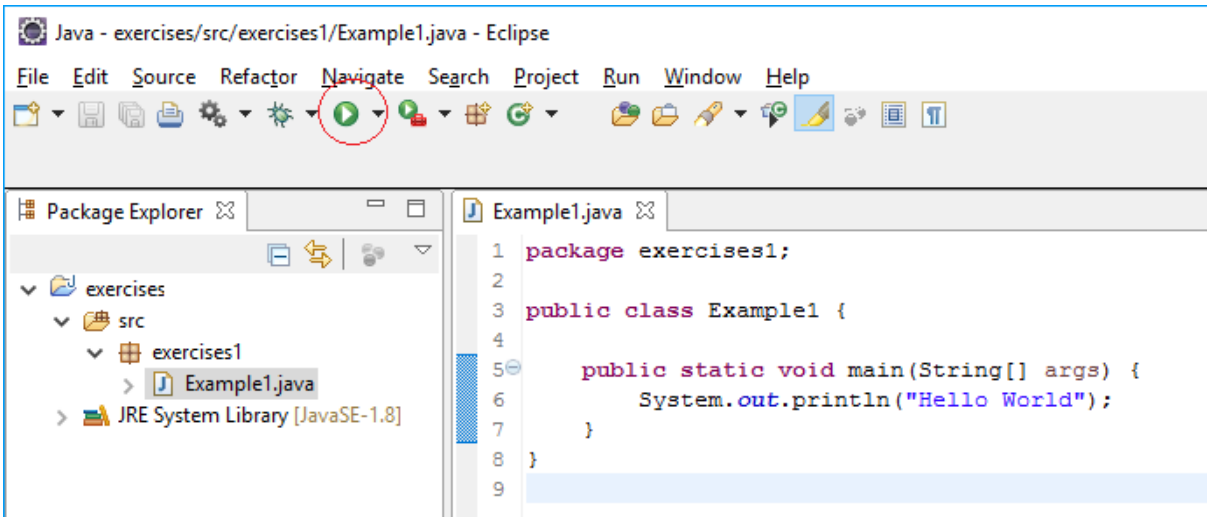


Eclipse will open the project into the *Java perspective*.

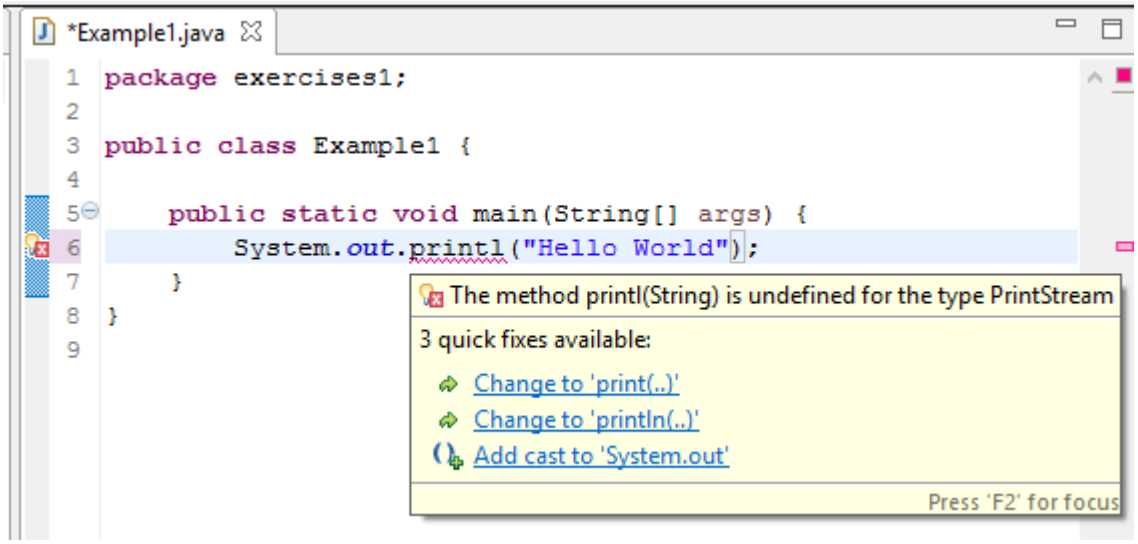
- Insert a new class **File/New/Class**. Give a name, a package and create the main method:



- Write the program code. When you save the file, Eclipse will compile your code automatically. You can run the program using the Run-button on the tool bar, or from the Run-menu, or choosing Run As/Java Application from the context menu for file Example1.java.



Eclipse marks syntax errors with red underline and an error sign on the margin. If you move your cursor to the underline or if you click the error sign, Eclipse will give you some fix suggestions, and you can choose the right fix:



> **Hints:**
> In Eclipse, you get System.out.println() by writing **sysout** and pressing **Ctrl+Space**.
>
> **Ctrl+Space** provides you with a list of suggested completions for partially entered strings.
>
> Select an opening or closing bracket and press **Ctrl+Shift+P** to find its matching bracket.

Exercise 1.2: User input, control structures, arrays

a) Write a new class with a main method that asks two integer values from the user and prints out the greater of the values.

b) Write a new class with a main method that asks many strings (e.g. names) from the user and stores those in an array. And in the end, it prints out the strings.(You can first, for example, ask the number of strings that the user wants to give and then allocate memory for the array.)

Exercise 1.3: Class definition and object creation

Write a class Prism which describes the characteristics of a rectangular prism. It contains instance data for the height, width, depth of the prism. These can be of type double and declared as **public**. Write also a method which returns the volume of the prism. Create a driver class, whose main method instantiates two Prism objects, sets some values to their instance data, outputs the data, and also outputs the volumes.

Exercise 1.4: Setters, getters, object array

a) Write a class which represents an order line (=the part of a sales order or purchase order that specifies the detailed information about a requested item). It contains instance data for the product name, price, and quantity. Use access modifier **private** for the instance

variables. Write getters and setters. Write a method, which returns the price of the order line (price*quantity). Write a short main method which instantiates an order line object, sets some data to it, prints out the data and the price of the order line.

b) Create a new class and main method, which asks how many order lines the order has, asks the data of the order lines from the user, and stores the order lines to an array. In the end of the main method, program prints out the order lines and calculates the total price of the whole order.
(If you need, you can use the last example in the end of chapter 3, CourseStudents2, as an example).