

Assignment 1

Java for C ++ programmers, 7,5 hp

Objective: To create a simple application that uses the basic syntax with variables and control statements and some more basic methods.

To read: Lecture 0 + 1

Tasks: 1

Submission: Inlämningslåda 1 at Moodle

Good luck!



Task 1

In this task, you will create a Java application that can calculate the circumference and area of circles and rectangles.

Requirements for the solution:

- Create a new Java project in Eclipse. Your classes should belong to the package: `dt062g.studentid.assignment1` where `studentid` is your username in the student portal / Moodle.
- The program should be completely text-based (use `System.in` and `System.out` for input and output from / to the user).
- The program will take input from the user if a calculation should be made on a circle or a rectangle.
- If the user chooses circle, the program will ask for the radius of the circle, and then represents the circle's circumference and the area on the screen. You can set that π (pi) has a value 3.14 when the circumference and area is to be calculated.
- If the user chooses rectangle, the program will ask for the width and height of the rectangle, and then represents rectangle's circumference and the area on the screen.
- When a calculation is done, the program should ask the user again if a calculation is to be made on a circle or rectangle. This will continue until the user chooses to end by typing "exit" instead of "circle" or "rectangle."
- If the user writes something other than "exit", "circle" or "rectangle", the program should throw an error. Ex: Unknown shape
- You can choose Swedish or English language for the communication with user.
- English should be used for names of classes, methods and variables in the source code.
- **Your code should be properly documented with comments and each class should contain information about the assignment, a brief description of what the class / program does, authors full name and username in the student portal, version and date when the class was created. Ex:**

```
/**
 * <h1>Assignment 1</h1>
 * This application allows the user to enter data for a circle
 * or rectangle. The circumference and area are then calculated
 * and the result is displayed to the standard output.
 * <p>
 * (Giving proper comments in your program makes it more
 * user friendly and it is assumed as a high quality code.)
 *
 *
 * @author Robert Jonsson (roberi)
 * @version 1.0
 * @since 2017-10-17
 */
```

- Split your code in the appropriate methods that are called from the class's main method. Declare your methods as follows:

```
private static void nameOfMethod()
```

Here is an example of running the program (the underlined text represents input from the user).

```
Enter exit to quit the program.

What geometric shape do you want to use? circle
Enter radius: 4,5
circumference = 28.26
area = 63.585

What geometric shape do you want to use? rectangle
Enter width: 10
Enter height: 5
circumference = 30.0
area = 50.0

What geometric shape do you want to use? sdfsdf
Unknown shape!

What geometric shape do you want to use? exit
Good bye!
```