

CS1 — Practical Session 2: Variables and Methods

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In this second practical session you will get some personal experience with the use of variables and methods in Java.

Exercise 0

Get the file `StartFromHere.java` from EleUM. Read the source code, compile the file and run it once. Then, use it as a starting point for the next three exercises.

Exercise 1

Write a Java program that asks for the width and height of a triangle from the terminal and afterwards prints the area of the triangle back to the terminal.

Exercise 2

Write a Java program that asks the user for the clock speed of his computer (e.g. 2.3 Ghz) and then computes and prints how far light travels during 1 clock cycle of his computer. (The speed of light is exactly 299792.458 kilometres per second. Use Google to look up the meaning of Ghz.)

Exercise 3

Write a Java program that reads in two variables from the terminal, prints them, then switches the values of these two variables and prints them again. (Don't cheat, make sure the contents of the variables are switched.)

Assignment!

Get the file `MaxAndMin.java` from EleUM. This file contains a ready made main method but still requires you to complete two methods that take 3 integers as parameters. Make one method return the maximum and one method return the minimum of the three numbers. (Hint: use the `java.Math` library to accomplish this.) You can run the class to test your implementation.

Then change the main method, to read in 5 numbers and output the smallest and largest numbers. Use, but **do not change**, the maximum and minimum methods already defined.

When everything works as expected, **upload** your `.java` file under the 2nd lab-assignment to make sure you get the credit for your work.

Bonus — so you don't get bored

Write a method that imitates the Java integer division `/` for doubles and returns an `int` type value. Write a second method that correctly rounds the doubles division to the closest integer instead of the smaller. Illustrate the use and correctness of both methods in your own main method.