

Programming Languages 2

Lesson 1

Information about the course

By taking the course in neptun the students accept all rules and regulations of the University and the course. The rules of the University is available online on the page of the University and the rules of the course are written below and available online on the page of the course.

Time of classes:

Mon. 14:00-16:00 IK-132

Thu, 10:00-12:00 TEOKJ-111

Thu. 14:00-16:00 IK-205

Criteria to pass course (new Computer Science Engineering BSc)

- Students must not miss more than 3 classes in the semester
- Students must not late more than 20 minutes from classes. In the opposite case the student is registered as being absent from the class (However (s)he is still allowed to stay in the class).
- The knowledge of the students will be measured in three tests and at the end of the semester there will be a retake test that builds up from two parts.
- Students pass if all their results are not lower than 50% or both parts of the retake test are not below 50%
- For passed students the grades are calculated as follows:
 - $\geq 50\%$ → 2
 - $\geq 70\%$ → 3
 - $\geq 80\%$ → 4
 - $\geq 90\%$ → 5
- **There is only one retake test in the semester.**

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Your task is to create your first Java application in NetBeans.

1. Create a new **project** in NetBeans the name of it should be HelloProject, the **package** name is helloproject.
(File → New Project → Java / Java Application → Create main class)
2. In the **main method** write a statement that prints out „Hello world!”.
(`System.out.println()`)
3. Modify the **main method** so that after printing out „Hello world” it prints out the natural numbers from 0 to 100.
(`for (___; ___; ___)`)
Note that in Java it is allowed to declare the loop variable inside the head of the for loop)
4. In the main **class** create a **static method** that can print out numbers between two limiting values (including them). The first **parameter** is the starting number and the second is the last one. The name of the method should be `printNumbersBetween(___)`.
5. Modify the main method so that it does the same as in the previous case, but it contains only two statements.
6. Modify the `printNumbersBetween(___)` method so that if the first number is smaller than the second it has the same functionality as before, but in the opposite case it prints out the numbers in decreasing order.
7. Alter the main method so that it prints out „Hello world”, it prints the natural numbers from 0 to 100 and after that it prints the natural number from 100 to 0 as well.
8. **Overload** the `printNumbersBetween(___)` method so that it has a third `int` parameter named `step`. This tells to the method what is the step to be applied when it is counting between the limits.
9. Modify the main method so that when it prints the numbers from 100 to 0 it prints out only the even numbers.
10. Modify the main class so that when it prints the numbers from 0 to 100 it prints out only the odd numbers.