Programming Lanuguages 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:

Thursday 8:00-10:00, (IK-TEOKJ-2-108)
Thursday 12:00-14:00, (IK-TEOKJ-2-108)

Criteria to pass course

- 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 two tests and at the end of the semester the worse from these two can be retaken
- Students pass a test if their result is not lower then 50%.
- Students get signature if they pass 2 tests and the average of these two tests is not lower than 60%.
- If a student fails both the first and the second test, (s)he can retake the worse exam with special conditions. Namely the average of the retake exam, and the better exam from the first two, has to reach 60%.
- If both tests are under 30% the student has to get at least 90% on the retake to pass.
- **There is only one retake test in the semester.**

Examples:

exam 1: **60%**, exam 2: **60%** -> **passed**, no retake exam is needed
exam 1: **60%**, exam 2: **40%** -> 60% is needed on retake. retake exam: **75%** -> **passed**
exam 1: **90%**, exam 2: **30%** -> 50% is needed on retake. retake exam: **40%** -> **failed**
exam 1: **20%**, exam 2: **20%** -> 90% is needed on retake. retake exam: **92%** -> **passed**
exam 1: **20%**, exam 2: **40%** -> 80% is needed on retake. retake exam: **75%** -> **failed**

Note that if a student fail only one test and pass the other the result on the retake has to be at least 50% no matter of the result of the passed test. (See the 3rd example above.)

Personal advices:

Programming Languages 1 is a fundamental course of your education. Many other subjects build on it, and students are only allowed to take them if they pass Prog. Lang. 1. In most of the cases home practice is a must to fulfill the criteria to pass.
You can ask for help both at office hours and any time via e-mail BEFORE the tests. Following the rules of the course above, after writing the first and the second test there is only one chance to retake.

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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 is has a thrird int parameter named step. This tells to the method what is the step to be applied when it is counting between the limuits.

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.