

## Software Testing, Autumn 2005

### Exercises II

14.11. – 18.11.2005

1. You have got the brilliant idea of setting up a company that sells testing services to software houses. Make a strategic plan for your company, taking into account the following issues:
  - What is the testing process that will be followed in the company?
  - What is the focus of the testing services?
  - What kind of people are you going to hire as staff for the company?
  - How are you going to validate that a testing project carried out in the company has been beneficial to the customer?
  - What kind of automated tools will the company use?
2. One of the current hot topics in software engineering is *test-driven software development* where the main idea is to use the results of a test planning phase as requirements for the coding phase. What do you think about this kind of approach? What are its main benefits and drawbacks?

You may use the following articles as sources (available both in paper format and in electronic format in the online materials of the Kumpula Science Library):

D. Janzen, H. Saiedian: Test-Driven Development: Concepts, Taxonomy, and Future Direction. *Computer* (IEEE) 38, 9 (September), 2005, 43-50.

J. Rasmusson: Introducing XP into Greenfield Projects: Lessons Learned. *IEEE Software* 20, 3 (May / June), 2003, 21-28.

3. The program reads an arbitrary number of temperatures (as integer numbers) within the range  $-60^{\circ}\text{C} \dots +60^{\circ}\text{C}$  and prints their mean value. Design test cases for testing the program with the black-box strategy.
4. When getting a person's weight and height as input, the program prints the person's body weight index. The weight is given in kilograms (as a real number, for instance: 82,0) and the height in meters (as a real number, for instance: 1,86). The body weight index equals weight divided by height squared:  $weight / (height \times height)$ . Design test cases for testing the program with the black-box strategy.