

Examination, ETS200/TNE130

Lund University, Department of Computer Science

Time: 2009-06-01 14:00-19:00

Place: Gasque

Assessment: total 60 points, it is required to get at least 30 points in order to pass the exam.

1. Describe the following testing techniques. In order to get full points, you should describe the technique in general, motivate when and where the technique is used, and give an example. The example should include code, test cases and test result.
  - a. Equivalence Partitioning (4p)
  - b. Data flow testing (4p)
2. Discuss the advantages and disadvantages of having an independent test group, that is, one that is a separate organizational entity with its own reporting structure, when the following method is used respectively:
  - a) Traditional waterfall development (4p)
  - b) Agile development method (4p)
3. Using a version of the V-model, describe the test-related activities that should be done and why they should be done during the following phases of the software life cycle: project initiation, requirements specification, design and coding. (8p)
4. A company plans to use the Test Maturity Model (TMM) to improve its test process. Please describe in general the levels of TMM, and how the TMM is used for assessment of a test organization. (4p)
5. Describe inspection and walkthrough, and their advantages and disadvantages. In order to get full points, you should describe the review methods in general, the process, the roles of team members and suggested team size, and when and how the methods are used. (6p)
6. Develop black box test cases using equivalence class partitioning and boundary value analysis to test a module that is software component of a journal subscription system. The module reads information of subscribers. The postal code for the subscriber's city will consist of 5 to 8 digits. Each subscriber can order up to 12 copies of one journal. Be sure to list any assumptions you make and label equivalence classes and boundary values that you use. (12p)

7. Using the structure chart shown below, show the order of module integration of the top-down and bottom-up integration approaches. (4p)

Estimate the number of drivers and stubs needed for each approach. (3p)

Assuming you have a maximum of 4 testers, specify integration testing activities that can be done in parallel. (3p)

Based on resource needs and the ability to carry out parallel testing activities, which approach would you choose for this system? Why? (4p)

