Home Exam 1DV600

Software Technology

1DV600 2017:1

Your answers should be your own! You are not allowed to copy code, models, or texts (books articles, blogs, wikis) in your answers! Don't discuss your answers with your peers!

Each submission will pass through a plagiarism/clone detection system before correction. If plagiarism is detected, the exam is failed and we initiate a formal investigation.

Submissions that arrive late will **not be considered!**

Questions in the myMoodle forum (not slack for this one). I will check it in the *morning* and in the *evening* so please be patient. Its recommended that you continue and not wait for an answer.

Each submission (PDF) contains maximum 4 A4 pages + one front page where you state
Home exam 1DV600, 2017:1
Name: [Your name]
Personal ID: [Your Civic number]
Lnu email: [lnu user name@student.lnu.se]

- **Maximum 40p**
- **Grade E ~ 30p**
- **Use illustrative examples in your answers when applicable!**
- **Don't forget to write your assumptions down!**
- **You may answer in Swedish or in English.**

Task 1 – Planning

a)   **(5p)**

What is the role of a process model in planning? Exemplify.

b)   **(5p)**

Describe and exemplify three planning related risks that iterative and incremental planning mitigate.

Task 2 – Process models

a)   **(5p)**

Compare SCRUM and Open UP. Use *roles*, *artifacts,* and *activities* for your comparison.

b)   **(5p)**

Most process models are generic require some tailoring/configuration for the project context. Exemplify and discuss some project specifics that would require you to tailor your process model.

Task 3 – Requirements

a)   **(5p)**

Use-case modeling is widely-used for modeling functional requirements. Describe how you work when you model use-cases. Use an example!

b)   **(5p)**

Non-functional or quality requirements are different the functional requirements. Discuss three differences. How would you model quality requirements if you model with use-cases?

Task 4 - Testing

a)   **(5p)**

Write a set of test-cases for the sortBillItems method/function. Explain your reasoning and motivate your test-effort. You do NOT have to implement the method/ function itself.

```
/**
* sortBillItems takes an array of strings as input and returns a sorted array of strings.
* The array should be sorted alphabetically.
* The system is used in a banking application
*
* @return String
* Note: both a .java a .js version of the method is provided below
*/
String[] sortBillItems(String[] toBeSorted) { … }
function sortBillItems(toBeSorted) { …}
```

b)   **(5p)**

Describe and explain the test-automation, motivate its usage and non-usage.