Essentials of Software Engineering 5th edition Tsui Solutions Manual

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Essentials of Software Engineering, Fifth Edition
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Answers to Review Questions

Chapter 1

1.6 Review Questions

1. What are statements that define and qualify what the program needs to do?

Ans: Requirement statements define what the user needs and thus what the programs needs to do for the users.

2. What are statements that constrain the ways in which the software can be designed and implemented?

Ans: Design constraints are imposed by the users on the ways in which the design and implementation must satisfy those constraints. An example may be a constraint on the choice of programming language for implementation.

3. Which type of requirement statement defines what the program needs to do?

Ans: Functional requirement statements as opposed to the non-functional requirement statements speak to the “functions”.

4. What requirements qualify as functional requirements? Specify in what manner they need to be achieved.

Ans: Non-functional requirement statements qualify the functional requirements with additional characteristics such as performance.

5. What decisions are those taken by the software engineer about the best ways (processes, techniques and technologies) to achieve the requirements?

Ans: Design decisions are made by software engineers to achieve the solution that will satisfy the requirements.

6. What type of testing refers to testing done by the clients (or somebody on their behalf), to make sure the program runs as specified?

Ans: Acceptance testing is usually performed by the users and clients prior to formally adopting the solution.

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7. What is GUI? What is CLI?

Ans: GUI stands for Graphic User Interface where graphical icons are used in the interface to users. CLI stands for Command Line Interface where the user communicates with the system through text line of commands and text line of responses.

8. List three of the typical kinds of non-functional requirements.

Ans: Three typical non-functional requirements include: 1) performance related requirements number of transactions per second, 2) real-time processing where a certain processing or response must be made within a given time frame, 3) extensible and modifiable are other non-functional requirements. Others include: easy to use, reliable, etc.

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