

CSE6214 Software Engineering Fundamentals

Tutorial 9

Part A: Exploration

Topic (Lecture 9): Software Quality Assurance

1. Search the following URL: http://en.wikipedia.org/wiki/ISO_9000 . Discuss the significance of ISO 9000 certification to an organization that develops software products.
2. What are the variations of the ISO standards that are more specific to software industry?
3. Search the following URL: http://en.wikipedia.org/wiki/Capability_Maturity_Model_Integration . Discuss the significance of CMMI certification to an organization that develops software products.
4. If your organization is certified as CMMI Level 3, what does it indicate? Can your organization be ISO certified also?

Part B: Discussion

Topic: Quality Concepts; Software Quality Assurance

1. Discuss how the quality of a software product can be determined.
2. Which is more important, to have a quality product or quality process? Discuss the benefits of each and give a comparison.
3. Explain the “Software Quality Dilemma” and what can be done to manage it.
4. What are Software Quality Assurance Activities?
5. Explain whether having ISO certification would ensure that Software Quality Assurance activities would be performed by an organization.

Part C: Project

Task: Prepare Test Data & Database

1. Produce test data for every use case of the software - there should be correct data to show that the software is working correctly, and incorrect data to show that errors are handled correctly. You should use the information from your problem domain as a source of your test data, e.g. brochures and forms.

2. The same set of data should be used by all team members to test their subsystems. You should use the data to test your software as you complete it and it will also be used during the final presentation of the project.
3. Verify the use cases that read and write to the database, and make sure that the test data can read from or written to the database as required in the use cases.
4. Based on your data design, create the database and enter the test data set in the database you have created. Check that your test data correspond to the database structure and can be stored in the database.