

Software Quality

There is no one universal definition of software quality. This is because of the complexity caused by the three or more participants affected by the quality of software, namely, customer, developer and stakeholders. The issue is whose views, expectations and aspirations are to be considered supreme. The majority hold that customer satisfaction should be the goal for measuring software quality. The customer may be satisfied though with software, the quality of which cannot be considered the best by other standards.

The software quality definition is based on the following:

- Customer focus and customer satisfaction
- Functional and performance requirement
- Ease of learning, use and maintainability
- Adherence to development standards

Customer satisfaction largely depends on meeting functional and performance requirements and ease of operations. Adhering to development standards ensures to a great extent the achievement of these goals.

Software quality is defined as the quality that ensures customer satisfaction by offering all the customer deliverables on performance, standards and ease of operations. The definition is applicable for software as well as for a generic software product.

Software Quality Assurance(SQA):

Software quality assurance is a planned effort to ensure that a software product fulfills these criteria and has additional attributes specific to the project, e.g., portability, efficiency, reusability, and flexibility. It is the collection of activities and functions used to monitor and control a software project so that specific objectives are achieved with the desired level of confidence. It is not the sole responsibility of the software quality assurance group but is determined by the consensus of the project manager, project leader, project personnel, and users.

A formal definition of software quality assurance is that is ‘the systematic activities providing evidence of the fitness for use of the total software product.’ Software quality assurance is achieved through the use of established guidelines for quality control to ensure the Integrity and prolonged life of software. The relationships between quality assurance, quality control, the auditing function, and software testing are often confused.

Quality assurance is the set of support activities needed to provide adequate confidence that processes are established and continuously improved in order to products that meet specifications and are fit for use. Quality control is the process by which product quality is compared with applicable standards and the action taken when nonconformance is detected. Auditing is the inspection/ assessment activity that verifies compliance with plans, policies, and procedures.