19 Software Quality Concepts
Chapter 15

The costs to find and repair a defect, maintenance has the highest cost

Software Quality:
It is defined as an effective software process applied in a manner that creates a useful product that provides measurable value for those who produce it and those who use it.

Advantages of providing useful products:
- Greater software product revenue.
- Better profitability when an application supports a business process
- Improved availability of information that is crucial for the business

Software Quality Effective process:
- An effective software process establishes infrastructure that supports building a high-quality software product.
- The management aspects of process create the checks and balances that help avoid project chaos - a key contributor to poor quality.
- Software engineering practices allow the developer to analyze the problem and design a solid solution - both critical to building high quality software.

Software Quality Useful Product:
- A useful product delivers the content, functions, and features that the end user desires.
- But as important, it delivers these assets in a reliable, error free way.
- A useful product always satisfies those requirements that have been explicitly stated by stakeholders.
- A useful product satisfies a set of implicit requirement that are expected of all high quality software.

Software Quality Adding Value:
- By adding value for both the producer and user of a software product, high quality software provides benefits for the software organization and the end user community.
- The software organization gains added value because high quality software requires less maintenance effort, fewer but fixes, and reduced customer support

Achieving Software Quality:

- Software quality is the result of good project management and solid engineering practice.
- To build high quality software you must understand the problem to be solved and be capable of creating a quality design the conforms to the problem requirements.

Achieving Software Quality:
- Project plan should include explicit techniques for quality and change management.
- Quality control - series of inspections, reviews, and test used to ensure conformance of a work product to its specifications.
- Quality assurance - consists of the auditing and reporting procedures used to provide management with data needed to make proactive decisions
- Defect prediction is an important part of identifying software components that may have quality concerns.