Software Quality Assurance Vs Software Quality Control (Monitoring and Control)

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Learning Objective

- To understand the difference between Software Quality Planning, Software Quality Assurance and Software Quality Control

Software Quality Planning

Activities involve:-

- **Planning** – Brainstorming, Fishbone (Cause and Effect) techniques, Listing, Matrix, Kanban, Gantt Chart
- **Keep track of all progress** – Microsoft Planner
- **Making informed decision** – Presentation, Chart, Histogram, Pareto Chart
- **Conduct Meetings, Discussion**
- **Centralize all communications**
- **Budgeting**
- **Setting priorities** – 80/20 rules

Software Quality Assurance (SQA)

The objectives:-

- To **improve software quality** by appropriately **monitoring** the **product** i.e. software, and the **development process** of the product
- To **ensure full compliance** with the **established standards** for the product and the process
- To **ensure any inadequacies** in the product, process or standards are brought to management attention, so these inadequacies can be fixed

Software Quality Assurance (SQA)

The activities:-

- **Define** quality objectives (software product and software process)
- Help **ensure** that software products and processes meet these objectives (i.e. reviews, auditing, inspections, testing)
- **Assess** to what extent those quality objectives has achieved and complied (measure and reporting)
- **Improve** them over time

Software Quality Control (SQC)

The objectives:-

- To **ensure** that the approaches, techniques, methods and process are adhered correctly.
- To identify defect(s)
- Quality Control is known as QC and focuses on identifying a defect. QC ensures that the approaches, techniques, methods and processes are designed in the project are following correctly. QC activities monitor and verify that the project deliverables meet the defined quality standards.

Software Quality Control (SQC)

The activities:-

- Monitor and verify that the project deliverables meet the defined quality standards.

Software Quality Assurance(SQA)

- To ensure the implementation of processes, methodologies and standards are **following the defined quality standards.**
- Focuses on the improvement of process and methodologies used to develop product. (**PREVENTIVE MEASURES**)
- Is a **verification activity - ** Verify that you are doing the right thing in the right manner.
- Examples SQA activities - process checklists, process standards, process documentation and project audit.

Software Quality Control (SQC)

- To verify the developed product **meets the required standards.**
- Focuses on the improvement of the product by identifying the bugs and issues and rectifying them. **(CORRECTIVE MEASURES)**
- Is a **validation activity -** Validates the product against the requirements.
- Examples of SQC activities - inspection, deliverable peer reviews and the software testing process, software maintenance and control (SCM).