**What is QA?**

* QA is a systematic Process that ensure the product or services meets the specific requirements and is free of defects before its reach the end user.

**Focus:**

* Its focused on preventing defects by improving the development process.

**Importance:**

* Build the user/customer trust by delivering the high-quality software.
* Reduces costs associate with fixing defects later.
* Ensure the software is **reliable, secure and user friendly.**

**2. Differences between QA, QC and Testing**

|  |  |  |  |
| --- | --- | --- | --- |
| Aspect | Quality Assurance (QA) | Quality Control (QC) | Test |
| Focus | Process Oriented (Prevention of Defects) | Product Oriented (finding Defects) | Execution Oriented (Issuing defects) |
| When | Proactive (Throughout on HDLC) | Reactive (Post development) | During Test face and earlier |
| Goal | Improving process by delivering Quality | Verify the meets the standard | Find and fixing issue in the product |

**3. Overview of SDLC and STLC**

**Software Development life cycle (SDLC)**

A framework that define task perform at each step of software development process.

That have six Phase.

* Phase:

1. Requirements Analysis
2. Design
3. Development
4. Testing
5. Deployment
6. Maintenance

**QA a role in SDLC:** Ensure the requirements are testable, participating in design reviews and validate the development outputs against requirements.

**Software Testing Life Cycle (STLC)**

A series/terms of activities performed during test ensure software Quality.

Also, that have six phases,

The Phases:

1. **Requirements Analysis:** Verify/identify the requirements are testable.
2. **Testing planning:** Create a strategy and allocate resources.
3. **Testcase Design:** write and review test.
4. **Environment setup:** Prepare the environments for test.
5. **Test execution:** execute test and log defects.
6. **Test closer:** analyze and report test result.