Session1

Software is a collection of computer programs that helps us to perform a task.

Software types: System (Device Drivers, OS, Utilities etc.),

Programming (Compiler and Interpreter) &

Appn. Sw (Web, Mobile and Desktop apps)

Sw Testing?

its a part of sw dvlpmnt process it detects and identifies defects in the sw. The objective is to provide a Quality sw. to customer.

What is Quality?

Ans. Parameters:

* Bug-free
* Delivery on time
* within budget
* meets expectations
* maintainable

Quality is not defined in product bt its in clients mind

Product v/s Project

Product for all based on market requirements.

Project specifically for one customer.

Error vs Bug vs Failure

Error -> Human mistake

Bug/Defect: -> Deviation from expected behavior and actual behavior of system.

Failure: Deviation identified by end user while using the product

Why sw has bug?

Cuz of following possible reasons:

* Miscommunication
* Sw complexity
* Programming errors
* Changing requirements
* Lack of Skilled tester

Software Testing Communities:

* Ministry of Software Testing MoT is one of the most famous and popular software testing communities.
* Testing Tech News ttn
* uTest

Some examples that show how a software could have bugs:

1) Miscommunication or No Communication

The development team deploys a new change but the testing team is unaware of it. Testers might suddenly find some unintended behavior and a lot of time can go into finding the cause. Proper communication within the team could have avoided this problem. So, effective communication remains the key to software development.

**#2) Software Complexity**

Assuming, in a program there are too many nested if-else statements and unfortunately in user interaction one of the logical paths gets triggered which was unintentionally missed in testing although rigorous testing was done.

**3) Lack of Designing Experience/Faulty Design Logic**

The popular communication app ‘Slack’ had received criticism for its public DM feature. Although a useful feature, allowing users (friends) from outside the organization to participate in chat was unacceptable to many organizations. Perhaps the Slack development team could have given more thought while designing this feature.

**4) Coding/Programming Errors**

Clicking on the ‘Cancel’ button does not close the window (which was expected behavior), although entered values are not saved. This is one of the simplest and most often found bugs.

**5) Ever-Changing Requirements**

For an e-commerce website, the initial requirement was for product search to be based on product name, but a few days before the release, it was decided to have a search based on product code as well. In this case, improper testing or insufficient testing time will almost certainly result in bugs getting leaked into the production environment.

Other reasons:

**Overconfident People**

**Over-Reliance on Automation**

Bug v/s Error v/s Failure

Bug:  
In [**software testing**](https://qacraft.com/), a bug is a deviation from the customer requirement, in simple language, we can say deviation between the expected result and the actual result in an application or in a module that is found by the testing team during the testing period.

Reasons:

* Missing Logic
* Erroneous Logic
* Redundant codes

Error:

An error in software testing refers to a slip-up, misunderstanding, or mistake made by a software engineer. In the category of developer, we include software engineers, analysts, programmers, and testers. For example, a developer may misunderstand a design notation, or a programmer might type a variable name incorrectly – leading to an Error. It is generated because of the incorrect login, loop, or syntax.

Reasons:

* Error in code.
* Inability to compile/execute a program
* Ambiguity in code logic
* Misunderstanding of requirements
* Faulty design and architecture
* Logical error

Failure:

Once the software is completed and delivered to the customer if the customer finds any issue in the software then it is the condition of failure of the software.

In other words, if an end user finds an issue in the software then that particular issue is called a failure.

Reasons:

|  |
| --- |
| * Environment variables * System Errors * Human Error |
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