Day-2

Hello Engineers, yesterday we learn
→ what is testing & why it is important
Lets start with more in detail.

* Testing and Debugging:

As you all aware that testing &
Debugging is different:

Testing ≠ Debugging.

*Executing test case can Cause by defect
in the S/w.
└ so the debbuging is the development
Activity that finds, Analyzes, and fixes
these types defects.

⇒ Quality Assurance and Testing

> Quality Assurance ≠ Testing

↳ But they are related, A larger Concept quality management tied them together.

" Quality Mangement includes all Activities that direct and control and organization with regards to Quality "

Quality Management = Quality Assurance + Quality Control

Quality Assurance is mostly focused on proper process, in order to provide Confidance that the Appropriate quality will be achieved.

⇒ Quality control involves various activities including testing Activities, that support the Appropriate level of quality. Test Activities are part of the overall S/W development or maintenance Process.

QA = Proper testing + Proper Execution of testing process.

Now Lets Discuss About Error, Defect & Failure.

* Defect: A defect in s/w testing is a variation or deviation of the s/w application from End user's requirements or original business requirements.

So, in short. s/w defect is an error in coding which cause incorrect results from s/w.

The Root cause of the defect are the earliest condition that contributed to create the defects.

Root Cause Analysis will help you to reduce the occurence of defect.

Root Cause analysis can lead to process improvement that prevent a significant number of future defects.

Root Cause of defect is an important topic for ISTQB Exam.

Let take an Example for better understanding of Root Cause, defect, Error in S/W Testing :-

Suppose, incorrect interest payment, due to a Single of incorrect code, result in Customer Complaints. So in this example

Effect :- Customer complains.

Failure :- The incorrect interest payment.

Defect : Improper Calculation in the code.

The Root Cause of the original defect was a lack of Knowledge on the part of the product owner. which resulted in the product owner making an Error while writing the user story

* 7 - Testing Principals

1. Testing shows the presence of defects, not their Absense.

Testing can show that defect are present, but cannot prove the there is no defect.

2. Exhaustive testing is impossible

Testing everything is not feasible except for Trivial Cases.

↳ A Trivial case we take example of testing already sorted list.

3. Early Testing saves time and money

To Find defect early, in static and Dynamic test activities should be started as early as possible in the SDLC.

Early testing also known as "shift left".

if the question asked in the interview or in exam what is shift left testing your Answer should be like this:-

Early testing whether it is static or dynamic is know as shift left testing

4. Defect cluster together

A small number of modules usually contains most of the defects discovered during pre-release testing, or is responsible for most of the operational failures.

Predicted defect clusters, and the actual observed defect clusters in test or operation, are an important input into a risk analysis used to focus the test efforts.

5. Pesticide Paradox

Tests are no longer effective at finding defects, Just as pesticide are no longer effective at killing insects after a while.

if same tests are repeated over and over again, eventually these tests no longer find any new defect.

6. Context dependent

Testing done differently in different context. For example :- Testing in an Agile project is done differently than testing in Sequencial SDLC.

7. Absence of error is a fallacy

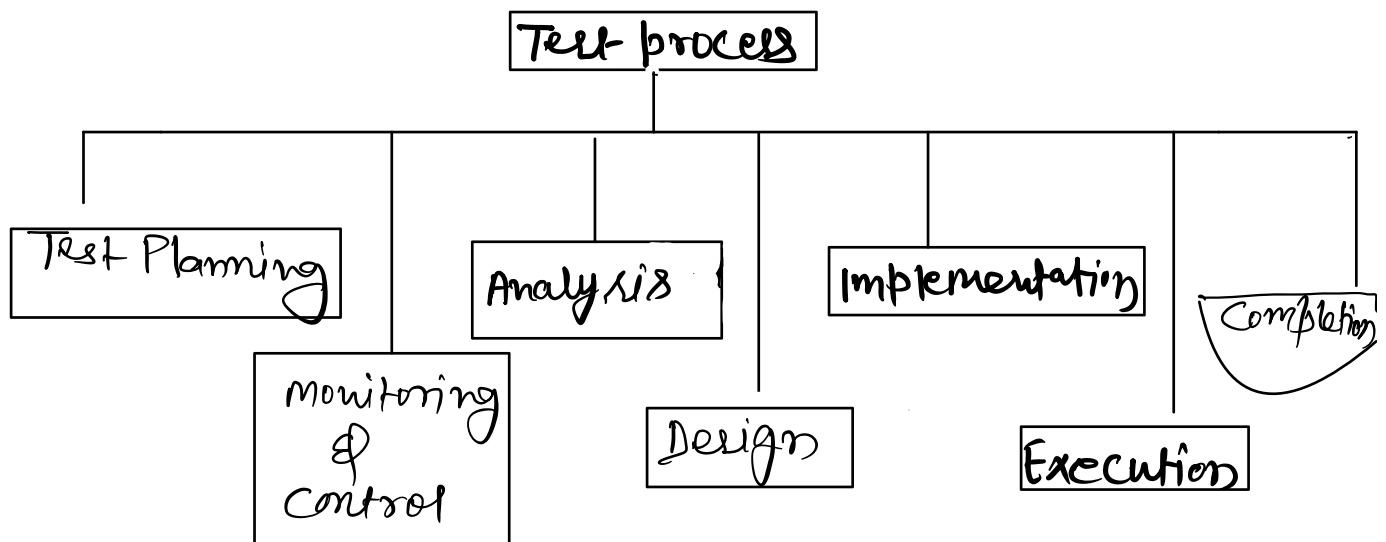Some organizations expect that testers can run all possible tests & find all possible defects but testing principal to

and 2. shows that it is impossible.

so in <u>ISTQB</u> they have around 1 or 2 question based on bug, defect, failure and Principles of testing.

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Thank you reading this till End.
In next we will discuss about
Test process in Detail.

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                    ┌─────────────┐
                    │ Test process │
                    └─────────────┘
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┌──────────────┐ ┌──────────┐ ┌────────────────┐ ┌────────────┐
│ Test Planning │ │ Analysis │ │ Implementation │ │ Completion │
└──────────────┘ └──────────┘ └────────────────┘ └────────────┘

┌──────────────┐   ┌────────┐   ┌───────────┐
│ Monitoring   │   │ Design │   │ Execution │
│ & Control   │   └────────┘   └───────────┘
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