BBST Lecture -1  
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1. Testing is an investigation and a good investigator actively searches for information
2. The point of testing is to dig up information about the product using the tool most perfect according to the circumstances
3. No set formula for best procedure or best practice for testing different situations calls for different approaches

A program is a set of instructions for a computer   
A purpose of a house is people to live in and a purpose of a program is to serve the intention of the program

**Stakeholder**  
 Any person affected by

* the success and failure of a project
* Actions and inactions of a product
* Effects of a service

**Program**

* A communication amount several humans and computers who are distributed over space and time that contains instructions that can be executed by the computer
* The point of the program is to provide value to the stakeholder

**Quality**  
Quality is value to some person- Jerry weignberg

* Quality is subjective
* Different stakeholders will perceive the same products as having different levels of quality
* Testers look for different thing for different stakeholders

**Bug**

* An attribute of a software product
* That reduces its value to a favored stakeholder
* That increases its value to a favored stakeholder
* Without a sufficiently large countervailing benefit
* Anything that takes away the quality of the product is a bug
* A bug for someone might be a feature for you
* A bug is what makes product more/less valuable

**Error**

* May or may not be a coding error or functional error
* Design errors are bugs too

**Software testing  
It is an empirical, technical investigation conducted to provide stakeholders with information about the quality of the product or service under test. We run the experiments and investigations behalf of customer**

**Testing is always a search for information  
intention of testing is to**

* Find important bugs
* Assess the quality of the product
* Help manage and asses the quality of the product
* Block premature product release
* Help ,predict and control product support costs
* Check the interoperability with the other products
* Find safe scenarios for use of the product
* Asses performance and specifications
* Certify that the product meets the particular standard
* Ensure the testing process meets accountability standard
* Minimize the risk of safety related to lawsuits
* Help client asses their product’s quality and testability
* Help client evaluate their process and suggest ways to improve them
* Evaluate the product for a third party

**Black box testing(closed box)**

* Testing and test design without the knowledge of the code or without use of knowledge of the code
* The testers design the tests from the research based knowledge of the products characteristics and needs
* The black box tester becomes and expert in the relationships between the program and the world in which It runs
* To know what a program will do we need to understand the need of the people who will be using it

**Glass box testing**

* Testing and test design with the knowledge of the code and details of the internals of the program(code and data )

**Black Box – Users expectation**

**Glass box- Programmers expectation**

**Grey box testing(translucent box)**

* A blend of black box and glass box testing   
  Eg : to study the variables that are not visible to the end user

**Behavioral testing**

* It is focused on the observable behavior of the product
* Visible behavior of the program without looking inside the code

1. Structural testing is same as glass box testing
2. Lowest level of testing is unit testing
3. One of the black box test techniques involves running tests that focuses on individual feature that is called functional testing
4. This also can be an example of black box unit testing

**Integration testing**

* To test one or more unit together is integration testing

**System testing**

* System testing is the process of attempting to show how the system does not meet the expectation standard
* Focuses on the value of the system

**Implementation level testing**

* Its glass box testing
* Focuses on whether the program works as the programmer intended or if the code can be optimized

**Functional/ para functional (non functional testing )**

* We analyze a function in terms of inputs we can provide and the outputs we would expect for those inputs
* Para functions -> Usability , scalability ,maintainability, security ,speed , localizability , supportability, accessibility

**Acceptance Testing**

* If the software developed is accepted by the user
* In traditional way costumer supervises the process of testing and decides whether to accept the product

**Independent testing**

* Testing done by a third party ,often in a independent test lab
* The key notion is the independent testers are not influenced and pressurized to test the software in the ways developer wants
* Independent testing does not have to be a glass box testing