

SEPM Assignment 1

The use of this design phase is to plan a solution of the problem specified by the requirements document. This phase is the initial step in moving from the problem domains to the solution domains. In other sense starting with what is needed design takes us toward how to satisfy the needs therefore the basic objectives are:

- Identify different kinds of software based on ~~the~~ the usage.
- Show difference among design and coding.
- Describe concepts of structured programming.
- Simplify some basic design concept.
- How a design testability as well as maintainability.

COHESION

Cohesion is the indication of the relationship within module. It is concept of intra-module. Cohesion has many types but usually highly cohesion is good for software.

COUPLING

Coupling is also the indication of the relationships between modules. It is concept of intra-module. Coupling has also many types but usually low coupling is good for software.

a) Objects:- All entities involved in this solution are known as objects. eg: Banks, company and users are considered as objects.

Every entity has some attributes associated with it and has some methods to perform on the attributes.

b) Message:- Objects communicate by message passing. Messages

consist of the integrity of target object, the name of the requested operation and any other action needed to perform the function.

Messages are often implemented as procedure or function calls.

- c) Abstraction:- An object-oriented design, complexity is handled using abstraction. Abstraction is the removal of the irrelevant and thus amplifications of the essentials.
- d) Class:- A class is a generalized description of an object. An object is an instance of a class. A class defines all the attributes, which an object can have and methods, which represent the functionality of the object.
- e) Inheritance:- OOP allows similar classes to stack up in an hierarchical manner when the lower or sub-class can ~~import~~ import, implement and re-use allowed variables and function from their immediate superclasses.
- f) Polymorphism:- OOP languages provides a mechanism where methods performing similar tasks but vary in arguments, can be assigned the same name. This is known as polymorphism which allows a single interface is performing function for diff types.

Ans 3:-> Differentiate in between

a) Alpha Test

Beta Test

performed by developers

performed by customers

It is conducted for software application

It is conducted for product.

performed in virtual environment

performed in real environment.

Involve both black and white box testing.

Involve both black box testing only.

b) Development Test

We test all software components

We test affected components that have been modified by modifications.

Budget gives time for testing.

Budget often does not give time for regression testing.

performed under pressure

performed in crisis situation

c) Functional Test

Structural Test

also called black box testing

also called white box testing

uses this specification to derive the test data

uses the program code to derive this test data

Testing is performed by the software testers.

Testing is performed by the software developer.

Briefly describe the following:-

→ Starting with the test cases, they provides a series of instructions that validates some part of the software is doing its work as expected. This helps to determine whether or not the software suits your requirements.

→ Test units, you know about test cases, the concept of test suites should be really simple. With a growing amount of test cases, the need for

categorizing them increases as well. You don't want to throw all your books on a pile, you'll organize them on shelves for better accessibility. In a way, test suites are very similar to shelves, as group test cases together.

(ii) Verification

The verifying process include checking documents, design, code and program.

It does not involve executing the code.

It finds bugs early in the development cycle.

It comes before validation

Validation

It is a dynamic mechanism of testing and validating the actual product.

It always involves executing the code.

It can find bugs that the verification process can not catch.

It comes after verification.

(iii) Alpha

Range in air is about 5 cm

penetration stopped by paper.

Ionization ability is high

Beta

about 30 cm

stopped by thin layer of lead or even aluminium foil.

Low

Gamma

100 cm.

stopped by thick layer of lead.

moderate

Ans

A failure that occurs when perceives that the software has

ceased to deliver the expected result with respect to the specification input values is called software failure.

Fault :- It is a condition that causes the software to fail to perform it's required function.

Error :- It refers to difference between Actual output and expected output.

Failure :- It is the inability of system or component to perform required function according to its specifications.