# Fundamental Test Process & Test Levels and Types

2. C A S E S

3. P LAN

4. O R A C L E

1. H A R N E S S

5. S T R A T E GY

7.IMPLEMENTATION\_ \_ \_ \_ \_ \_ \_

6. SUITES

1. Test **harness** is a collection of software and test data.
2. There are logical and concrete test **cases**
3. The results from the planning activities should be documented in a test **plan.**
4. To predict the test results you use test **Oracle**
5. The main task of planning is to define test **strategy**.
6. You group the test cases in a test **suites**
7. The quantity of tests and the test coverage determine the test **implementation.**

# Homework

1. Fill in the right term.
2. Write down the test levels in correspondence with their level. Start with the basic test level at the bottom of the pyramid.

|  |  |
| --- | --- |
| Letter | Test Level |
| A | **Acceptance testing** |
| B | **System testing** |
| C | **Integration testing** |
| D | **Component testing** |

1. Below we have some tasks for the testers in a department of a company. According to the activity described in the left column determine the type of the test they are going to perform.

|  |  |
| --- | --- |
| * Test Activity | * Test Type |
| * Open the main menu, go to Invoices and create new Invoice. Check if the invoice is visible in menu Invoice Journal. | * **Functional Testing-** because the test main objective is checking a system’s input-output behavior by creating a new invoice (input). The invoice must be visible in menu “Invoice Journal” (output). The system is treated as a black box. |
| * Open the application and try logging in with invalid credentials. This test is going to be performed after each daily build. | * **Risk-based Testing** as the impact of logging with invalid credentials will be serious. Also connected with **regression** testing, as this is functionality, that is supposed to have been working in the previous versions. |
| * Create a test for logging in the application with legal credentials. Create a test to find how many users can log in simultaneously in the system. | * **Non-functional Testing** because is connected with performance and load. |
| * Make the same test that revealed a bug before the last build. The developer set the issue to “fixed”. | * **Re-testing** because same test is performed as confirmation after a bug status is set to “fixed”. **regression** testing, as this is functionality, that is supposed to have been working in the previous versions. |
| * Create a unit test for the method AddItem of the class Order. | * **Structural Testing** because for unit tests we use the code, it is white-box testing. |
| * Open the test used before the last release for exercising the online help option and change the link to the current location of the help info. | * **Maintenance Testing** as the help info link has changed due to the release of the new version. |

1. Write test cases for a car. You need to cover the different levels and types. Try to achieve a good test coverage.

## Positive Test Cases of Car

* Verify that car should get unlocked and start smoothly on unlocking with its key
* Verify that car gets driven smoothly at normal speed on road and under normal climatic condition
* Verify that clutch, break and accelerator functions are working correctly
* Verify the engine type of car - whether it is Petrol, Diesel or CNG engine
* Verify the car's performance on different types of roads- charcoal, cement etc
* Verify car's performance and fuel consumption on plains, hills and slops
* Verify that the mileage of the car is as per the specification
* Verify that the dimensions of the car are as per the specification
* Check if the car is sports car or luxury car
* Check that the fuel capacity is as per the specification
* Check if the steering is power steering or not
* Check if gears are automatic or manual
* Verify if the reverse gear of the car works correctly
* Check if the height of the car's floor is at an optimum distance from road
* Verify the top speed of the car under normal conditions
* Verify the maximum acceleration of the car
* Verify the car's outer body material
* Check if the car's pane are made of tempered glass or not
* Check the number of seats in the car
* Check if the hand brakes are functional or not
* Verify that brakes work correctly and gets applied in a timely manner or not
* Verify the type and power of battery
* Check if the headlights are working fine and give proper lighting when applied at night/dark
* Verify the shock absorber of the car
* Verify if the air bags are present or not and are functional if present
* Check if centre locking is present or not and is functional if present
* Check if the seat belts are present and are functioning correctly
* Verify car's interior- spacing, material, quality etc
* Verify if the speedometer, fuel meter and other indicators are working fine or not
* Verify cars performance, tyre's grip on driving the car on rainy day
* Verify that car should get started and run smoothly on using it after several days
* Check the automatic car lock functionality
* Verify that car's back light should get lightened on reversing the car
* Verify that left and right indicators should function correctly
* Check if anti-theft alarm is working correctly or not

## Negative Test Cases of Car

* Verify the car's functioning on filling it with non-prescribed fuel type
* Drive car at high speed on first gear only
* Keep the air pressure different on all the four tyres and than drive the car
* Use hand break while driving the car
* Try to start the car with some other key
* Check the condition of tyres on filling them at pressure higher than prescribed
* Check the condition, speed and fuel consumption of car on filling the tyres with pressure less than prescribed
* Check car's speed, performance and fuel consumption on driving the car on roads not conducive for driving