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Assignment-4 : TDD, DDD, Monkey Testing, Gorilla Testing

Assignment-4

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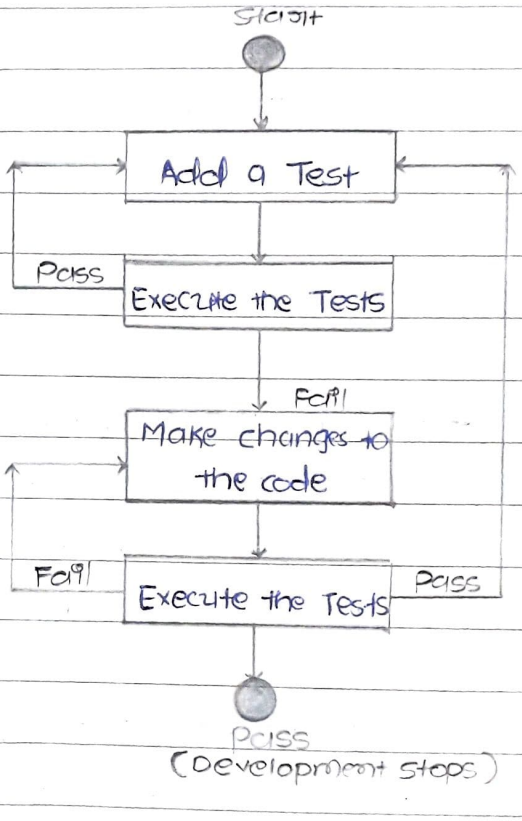
* Test Driven Development (TDD) :-

→ Test Driven development is a software development process relying on software requirements being converted to test cases before software is fully developed, and tracking all software development by repeatedly testing the software against all test cases.

- Test-Driven development is a process of developing and running automated test before actual development of the application. Hence, TDD sometimes also called as **Test First Development**.

→ TDD Process :-

1) ADD a Test
2) Run all tests & see if the new one fails
3) Write some code.
4) Run tests and Refactor code
5) Repeat



→ Benefits of TDD :-

1) Much less debug time
2) Code proven to meet requirements
3) Tests become Safety Net
4) Near Zero defects
5) Shorter development cycles

→ Popular TDD Tools :-

i) csUnit : An open source unit test tool that offers a TDD unit test framework for .Net projects.
ii) JUnit : A Java TDD unit test framework.
iii) NUnit : This one again is used for .Net projects.
iv) PyUnit : A standard unit testing framework for Python.
v) PHPUnit : This one is used for PHP projects.

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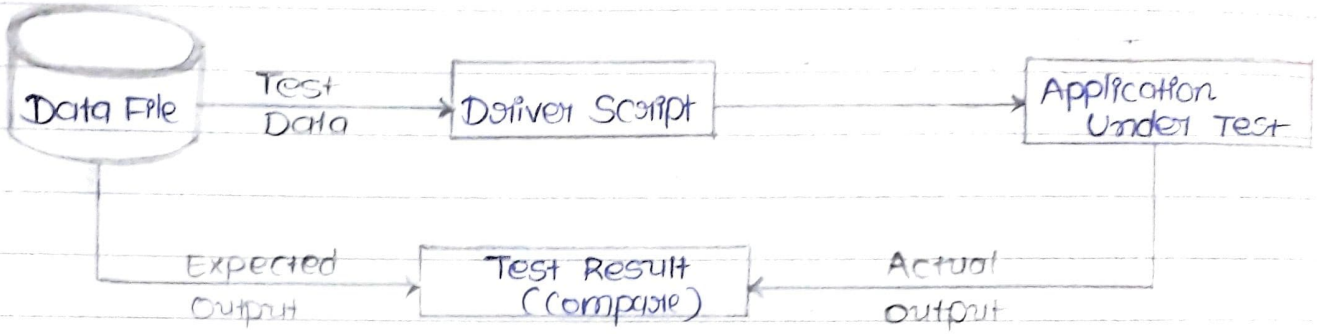
* Data Driven Testing/Development (DDD) :-

→ Data Driven Testing is software testing method in which test data is stored in table or spreadsheet format. Data driven testing allows testers to input a single test script that can execute test for all test data from a table and expect the test output in same table. It is also called table-driven testing or parameterized testing.

- Data Driven Framework is an automation testing framework in both Positive and negative test cases into a single test.



→ Why Data Driven Testing :-

Data Driven Testing is important because testers frequently have multiple data sets for a single test and creating individual tests for each dataset can be time-consuming.

→ Advantages of DDD :-

1. Allows to test application with multiple sets of data values during Regression Testing.
2. Test data and verification data can be organized in just one file, and it is separate from the test case logic.
3. Actions and Functions can be reused in different tests.
4. DDD can perform any phase of the development. A data-driven test cases are generally merged in the single process.
5. Allows developers and testers to have clear separation for the logic of their test cases/scripts from the test data.
6. The same test cases can be executed several times which helps to reduce test case and scripts.

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→ Disadvantages of DDD :-

- Quality of the test depended on the automation skills of the Implementing team.
- Data validation is a time-consuming task when testing large amount data.
- Maintenance is a big issue as large amount of coding needed for DDD.
- High-level technical skills are required. A tester may have to learn an entirely new scripting language.

→ Conclusion :-

- Data-driven is a test automation framework which stores test data in a table or spread spreadsheet format.
- In Data-driven test automation framework, input data can be stored in single or multiple data sources like xls, XML, csv and database.
- To create an individual test for each dataset is a lengthy and time-consuming process. Data Driven Testing Framework resolves this issue by keeping the data separate from Functional tests.
- In Data Driven Testing, it is an ideal option to use realistic information.

* Monkey Testing :-

→ Monkey testing is a software testing technique in which the testing is performed on the system under test randomly. The Input data that is used to test also generated randomly and keyed into the system.

→ Characteristics of Monkey Testing :

- This testing is so random that the tester may not be able to reproduce the error/defect.
- The scenario may NOT be definable and may NOT be the correct business case.
- Monkey Testing needs testers with very good domain and technical expertise.

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→ Advantages of Monkey Testing :

- As the scenarios that are tested are adhoc, system might be under stress so that we can also check for the server responses.
- This testing is adopted to complete the testing, in particular if there is a resource/time crunch.

→ Types of Monkey Testing :

1) Smart Monkey : Tester has a precise idea about system its purpose and functionality. Tester navigates through the System and gives valid inputs to perform testing.

2) Dumb Monkey : Testers have no idea about system its purpose and functionality. ~~Tester navigates through the System~~ also no assurance about the validity of test case.

3) Brilliant Monkey : Testers perform testing as per user's behaviour and can specify some probabilities of bugs to have occurred.

→ Monkey Testing can also be performed for Android even. Monkey Testing may get efficient with the use of tools. Even it can be used to find more bugs like other testing types. If we use tool for Monkey Testing what could be the general process followed for it.

→ The process of Monkey Testing can be automated even with the use of tools but as it is some sort of new kind of testing introduced and not yet established on industry level these tools have less identity, unlike others.

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* Gorilla Testing :-

→ Gorilla Testing is a testing technique in which testers, sometimes developers also join hands with testers to test a particular module thoroughly in all aspects.

- Gorilla Testing, a technique in which repetitive Manual Testing process, which a tester would have done several times before, is done again to test the robustness of the system.

→ Gorilla Testing is a software testing technique where in a module of the program is repeatedly tested to ensure that it working correctly and there is no bug in that module.

- A module can be tested over a hundred time, and in the same manner. So, Gorilla Testing is also known as "Frustrating Testing".

→ Testing each portion or module of a software to its breaking point is known as Gorilla Testing. In other words, every minor code of the software is tested until it starts to fall apart or fails to give the desired results.

Monkey Testing	Gorilla Testing
- Monkey Testing is performed randomly with no specifically predefined test cases.	- It is neither predefined nor random.
- Monkey Testing is performed on entire system can have several test cases.	- Gorilla Testing is performed on specifically few selective modules with few test cases.
- The objective of Monkey Testing is to check for system crash.	- objective of Gorilla testing is to check whether the module is working properly or not.