**Different Types Of Manual Testing**

1. **Manual and Automation testing—**In Manual testing, we write everything in the form of test cases in a Excel sheet or different tools available like test rail. This testing is not as accurate because of the possibility of the human errors. It does not use frameworks but may use guidelines, checklists, strict processes to draft certain test cases. It’s time taking process and some times it’s boring because it’s a similar. While testing a small change, an automation test would require coding which could be time-consuming. While you could test manually on the fly. Manual Testing is suitable for Exploratory, Usability and Adhoc Testing. And Zero defect application is not possible.
2. **Automation Testing --**Automation Testing uses automation tools to execute test cases. It does not allow random testing. This testing is a reliable method, as it is performed by tools and scripts. There is no testing Fatigue. Automated Tests have zero risks of missing out a pre-decided test. This Testing is suited for Regression Testing, Performance Testing, Load Testing or highly repeatable functional test cases.
3. **What is software testing or what is testing ?** Software testing is an activity to check that the software system is defect free. Testing is either manual or automation. It is actual Vs expected. Generally testing is divided into two parts—1) Functional and 2) Non-Functional.
4. **Functional Testing** – it means checking the functionality of the particular application in a different way**. Example** -Checking the login scenario, Registration scenario, Payment Scenario etc. Checking the scenarios, Test scenarios and test cases are there. On the basis of that we are doing testing that type of testing is called Functional testing.
5. **System Testing –**means the overall system checking that end to end the full flash system checking with respect to the requirement. There are number of components combining together, like login, form, search, product. How exactly all these components are interacting and working at the system that type of testing is called system testing.
6. **Regression Testing**- is the process of testing changes to computer programs to make sure that the older programming still works with the new changes. It’s a daily routine activities. **Example—**Some application is already built. And we have found 5 new issues. The developers they are fixing and we are testing and verifying on those 5 new issues for detecting the bug. To fix the bug of the new issues some other parts of the application should not be disturbed hamper.
7. **Re-Testing**- is a testing of a particular bug after it has been fixed. It is only bug verification testing whatever the bug you are verifying that is called Re-testing or bug verification.
8. **Smoke Testing**  is a software testing service performed after software build to find if the critical functionalities of the program are working fine or not. **Example –** i)verifying if GUI of the application is responsive or not. ii) Verification of the application launch successful or not.
9. **Sanity Testing –**is the process of software testing performed after receiving a software build with little changes in code or functionality to ascertain that certain bugs have been fixed in advance to resolve workflow issues. And no further issues introduced due to new changes.

* **Difference between Smoke and sanity testing –** Smoke testing is done on **initial build** whereas sanity testing is done on **stable build**

1. **Integration Testing-**is a software testing in which components (two or more components) are combined to confirm that they interact according to the explanations and requirements. In that case two system are integrated to check it’s working fine or not.
2. **Unit Testing –**It is always generally done by the developers. It means on the basis of the code whatever the code the developers they have written , they are responsible to write the unit level test cases and they are also responsible for the first test application and then once they feel that it is okay then they give it to QA. So that type of testing is called Unit testing.
3. **Database Testing-** means checking the complete Database. The database whatever the data point of view and schema, all these data is getting entered into the database in the proper table, we are able to fetch the data from the database. Such kinds of testing is called database testing.
4. **White box Testing –** is a software testing method in which the internal structure / design /code / implementation of the item **being tested is known** to the tester. Example-**WB means** there is an application wherein I can see the code and I can check the code and on the basis of that code I have to write my test cases and then checking that. This is what I have to test.
5. **Black box Testing –** is a software testing method in which the internal structure / design /code / implementation of the item being **tested is not known to** the tester.

**Example-T**here is a box, I am just passing input, On the basis of that Input in the application will perform something in a few and give the output. But I don’t know How exactly It is doing. What is written inside the box, Inside the application. Because this is black box. I can’t see that, I don’t have any knowledge about because I am not a black box tester.

1. **Gray Box Tesing-**is a combination of white box and black box testing. The aim of this testing is to search for the defects if any due to improper structure or improper usage of the application. It means I am doing white box and black box testing also. Some of the component I can see and Some of the components I can’t see, That type of testing is called Gray box testing.
2. **Monkey Testing**- is a technique where the user tests the application by providing random input and checking the behavior or seeing whether the application will crash. It is usually implemented as random, automated unit tests. In this testing you don’t have any knowledge/ idea about what kind of things inside the application, what are the different feature are there.
3. **Adhoc Testing**- It is a software testing which are performed without proper planning and documentations. Such kind of testing are executed only once unless we uncover the defects. It does not follow any test design techniques to create test cases. It does not follow any structured way of testing and it is Randomly done on any part of the application. Form of Adhoc testing -1) Monkey testing 2) Buddy testing3) Pair testing.
4. **Component Testing**- is a software testing which is performed on each individual component separately without integrating with another components**. Example– Login component** is ready and search component is ready. So You are just checking Login component to get the home page. Or You are just checking Search component that you are able to search the product.
5. **End to End Testing -**Testing the overall functionalities of the system including the data integration among all the modules is called end to end testing. So the complete business flow you are checking from the beginning to the end .
6. **GUI(Graphic user interface) Testing**—is the process of ensuring proper functionalities of the GUI for a specific application. **Whatever you can see the look and feel of the application -**

* The image are properly color,design, layout everything is fine.
* There is no mismatch in the alignment, fonts, fonts size,label. Text boxes, text formatting, buttons, buttons color,links.Icons, captions, list and contents , all things are properly aligned.
* Tables are properly aligned, proper heading are available, Text are not overlapping, Sorting is the happing of the column wise .**There are two types of GUI testing -1) Analog Recording and 2) Object based recording.**

1. **UAT (User acceptance) testing** -is the last phase of software testing process which is performed by the end user or the client to verify /accept the software system before moving the software application to the production environment. It is kind of black box testing where two or more end user will be involved. In UAT there are two types of testing-1) Alpha testing 2) Beta testing.
2. **Alpha Testing-**Is a type of UAT testing. It is conducted by a team of highly skilled testers at development site. It is to ensure the quality of the product before moving to Beta testing. It requires lab environment or testing environment. This testing is done before the launch of software product into the market. It is done onsite therefore developers as well as business analysts are involved with the testing team. It involves both black-box testing as well as white box testing,
3. **Beta Testing --**Is a type of UAT testing . Beta Testing is always conducted in Real-Time environment by customers or end-users at their own site. It also concentrates on quality of the product, but gathers users input on the product and ensures that the product is ready for real-time users. Beta Testing developers and business analysts are not at all involved. Beta Testing is always a black box testing or functional testing.
4. **Acceptance Testing**  is a **software testing** where a system is tested for acceptability. The purpose of this **test** is to evaluate the system's compliance with the business requirements and assess whether it is acceptable for delivery.
5. **Happy path testing/ Scenario-** This is a very high level functionality and a very basic flow that we are checking and it is similar to smoke and sanity testing that is called happy path scenario. Generally we do it in the production level, Once the production release is done, we are just checking happy path scenarios only and only positive flow thar we are checking. We are not checking the negative flow.
6. **Positive Testing—** It means testing the application or system by giving valid data. The purpose of this Testing is to prove that the project and product works as per the requirements and  specifications of a client and customer.  In this testing tester always check for only valid set of values.
7. **Negative Testing-** It means testing the application or system by giving invalid data. The purpose of this Testing is try to break the application or system by providing **invalid set of data**. In this testing tester always check for only invalid set of values. Example-All negative use cases, like Wrong value, wrong un, pwd, Blank un,pwd,Null values, Different types of negative data you are entering or passing that type of testing is called Negative testing.
8. **Web Application and Client Server Testing-** Testing the application in intranet(without browser) is called client server testing. **Testing the application in** i**nterne**t (with using browser) is called web Application testing.
9. **Static Testing** -Without seeing the code that means there is code is still pending or code is not fully ready, in fact, it is not started. Only requirement documents is there or may be AC is there. So on the basis of that you are doing some testing or some reviews that type of testing is called Static testing. There are three steps in static testing 1) Reviews 2) Walkthrough and 3) Inspection. First we review it then it will be walkthrough , which would be done by the business analyst and then they will do some inspection for all the requirements that is called static testing.
10. **Frontend Testing-** is a testing Graphical user interface, functionality and Usability of the website or application. It is essential to check the overall functionality of the application. The type of testing done are- Unit testing, Acceptance testing, Accessibility testing, Regression testing It is a testing that checks the presentation layer of a 3 Tire architecture**.**
11. **Backend Testing** –is known as data base testing. It is a testing that checks the server side or database. The data entered into the front end that will be stored in the backend database. The database may be SQL server, My SQL, Oracle, DB2 etc. Backend testing is done in Business layer(Application user interface) and Data base layer(Database). In this testing there is no need to use the GUI.

**How to do Backend Testing**- Database testing mainly includes validating ---Schema (is a set of formula), Database tables, columns, keys and indexes, stored procedures, Triggers, Database server validations, validating data duplication, Transactions. It is important to check for deadlock, data corruption, data loss etc. Its type of testing are SQL and API testing.

**Example-** When we use an application or use a mobile device and when we do some actions, There are some data which flows over the network and the server handles the data and store the data into the database and then give it back when we need them ,So its is a back end testing.

**Types of Testing -**there are different types of testing do we have in backend –1) Unit 2) Functional 3) Performance 4) Resiliency 5) Security Testing. (3, 4 and 5 are non functional testing).

**Backend Testing Scenario(to open bank account)—**Yes, I did. It was the case of testing, one part of application used in the bank. When customers comes to open a bank account. The bank associate person put all the primary data of the customers into the computer which I and that data flows over the network and Server handles the data and store into the database in the form of rows and columns in xml format and the processed data is sent to ETL(Extra transform load)which process the job to create a file to produce the report. This file is displayed to a GUI front end report format with the help of the business object. In the GUI front end report, like – in January , The income of the person was displayed as $1000. Then my job was to validate this by writing SQL queries whether this data mitched with original input data in the database, being called as the Backend testing.

**If we select these SQL queries , on the basis of that queries, Internally API will hit the SQL queries to get the from the database. Database /server give it to the response to the API’s and the response will be shown in the form of JSON or XMl file and then It will shown on the website/ on** the application which is correct or not.

**Non Functional Testing**

1. **Non functional testing—**means you are not checking the functionality. It is always done once the feature is stable.

Functionality is working fine and perfectly that you have done all different types of testing and there is no bugs in the application and the application is very stable then we have to do some non functional testing. It includes Performance testing, Security testing, Recovery testing and Compatibility testing etc.

1. **Performance testing** – In performance testing you are checking performance of the application with a different load. **Example –Thousand** or millions of users are using Amazon.com during the holiday’s event. They are hitting that particular application. So you are checking the performance of the application that the Amazon server is able to handle the data and handle the such kinds of huge amount of request or not. So this type of testing is called performance testing. This testing is **divided into multiple parts- a) Load testing, b) Stress Testing 3) Volume testing**
2. **Load testing** is a type of performance testing which you are checking with different load with single user.
3. **Stress Testing-** It means we are checking the threshold value**. Like -**maximum at time youhave to do some benchmarking that after 1000 uses my server will be down . So you will check the threshold value what exactly the amount of load this particular server can handle, that type of testing is called stress testing.
4. **Volume Testing/Flood** **testing** –V**olume testing** is quite different from **stress** and **load testing**. **It** refers to **testing** a software application or the product with a certain amount of data. The purpose of volume testing is to determine system performance with increasing volumes of data in the database.
5. **Security Testing -it** is done to ensure that the application has no gaps which could lead to any data loss or threats. It is a testing that once the application is stable and everything is fine. It is the developers responsibility to make sure that the security testing is happening properly. In that case you have to check all the vulnerability testing and check the network layer, Server layer, database layer. So such kind of things we will be checking with respect to security testing.  it can lead to **security** threats.
6. **Compatibility Testing** – It is a testing to ensure that the application /website/ or system is capable of running on various objects. Like on various browser, on various operating system with some other application on network. It means browser specific, Cross browser specific, operating system specific( Mac, windows, Linux, Google Chrome, IE, Unix, Safan)
7. **Recovery Testing -**It is non functional testing technique which is performed to determine how quickly the system can recover after crashed or failure .  like software/hardware crashes, network failures etc.T he purpose of Recovery Testing is to determine whether operations can be continued after a disaster or after the integrity of the system has been lost.