Smoke Testing

Definition:
Smoke testing is a preliminary test that checks whether the basic functions of an application work. It is a simple check to ensure that the most important features are functional before more detailed testing begins. Think of it as a "quick check" to see if the build is stable.

Why Do We Need Smoke Testing?

- To confirm that the main features of the application work.
- To avoid wasting time testing deeper features if basic functionality fails.
- To detect critical issues early and ensure the software is stable enough for further testing.

Key Aspects of Smoke Testing

1. **Quick and Basic**:
    - Smoke testing focuses on the core functions of the software. It doesn't test in-depth but just enough to make sure things aren't broken.
2. **Checks Essential Features Only**:
    - It includes only a small number of test cases to verify critical parts, like loading a webpage, logging in, and navigating through main pages.
3. **First Step After a New Build**:
    - Smoke testing is often the first test done on a new build (a version of the software with recent updates or bug fixes) to see if it's worth testing further.

When Is Smoke Testing Done?

- **After a New Build**: Every time developers release a new build or update, smoke testing checks the core functionality.
- **Before Detailed Testing**: If smoke testing passes, the build moves on to more detailed testing phases like functional and regression testing.

Example of Smoke Testing

Imagine you have a new build of an **e-commerce app**. Smoke testing would include:

- Checking if the **homepage loads**.

- Testing if the **login page** works.
- Adding a product to the **shopping cart**.
- Attempting to **checkout** and ensure the payment page loads.

If any of these tests fail, the build might be sent back to developers for fixes before more testing continues.

Benefits of Smoke Testing

1. **Early Detection of Major Issues**:
    - Detects severe problems that could prevent further testing.
2. **Saves Time and Effort**:
    - Avoids wasting time testing in detail if basic functionality doesn't work.
3. **Improves Build Quality**:
    - Ensures only stable builds go into deeper testing phases, improving overall quality.

Difference Between Smoke and Sanity Testing

- **Smoke Testing**: Broad test of all major functions to check if the build is stable enough for further testing.
- **Sanity Testing**: A narrow test focused on specific functions after minor changes, to verify that those specific parts still work.