**Week 2 :**

**Day 6 :**

**TestNG: Data provider.**

In TestNG, a Data Provider is a method marked with @DataProvider annotation that supplies data to a test method, enabling parameterized testing for improved test coverage.

**Groups**

TestNG groups allow the categorization of test methods, facilitating selective test execution based on group inclusion or exclusion, enhancing test organization and management

**Priority**

TestNG priority attribute assigns execution priority to test methods, ensuring a specified order of execution, vital for controlled and sequential testing scenarios

**Parallel Testing**

TestNG supports parallel testing, allowing concurrent execution of test methods or classes with the **parallel** attribute in the **<suite>** or **<test>** tags, enhancing efficiency in test automation.

**Day 7 :**

**Selenium Grid : Grid Architecture and Demo**

Selenium Grid is a tool in the Selenium suite that facilitates parallel test execution by allowing tests to run on multiple machines or browsers concurrently, providing a scalable and efficient solution for distributed test automation

**Introduction to BDD-Cucumber**

Behavior-Driven Development (BDD) with Cucumber is a framework that promotes collaboration among developers, testers, and non-technical stakeholders by enabling the creation of executable specifications in plain text. Cucumber uses the Gherkin language to describe application behavior in a human-readable format, allowing stakeholders to contribute to test scenarios

**Day 8 :**

**BDD-Cucumber implementation with Junit.**

BDD with Cucumber and JUnit involves combining the Cucumber framework, which uses Gherkin syntax for behavior-driven development, with JUnit for test execution in Java. Cucumber features are written in Gherkin language, and step definitions are implemented in Java using JUnit

**BDD-Cucumber implementation with TestNG.**

BDD with Cucumber and TestNG combines the Cucumber framework, which uses Gherkin syntax for behavior-driven development, with TestNG for test execution in Java. The process involves writing feature files in Gherkin, implementing step definitions in Java using TestNG annotations, and executing the tests with a TestNG runner

**Day 9 :**

**Extent Report**

Extent Reports is a Java-based reporting library for TestNG and JUnit that creates interactive and visually appealing HTML reports, enhancing test result analysis and presentation.

**Assertions using TestNG**

TestNG assertions provide a concise way to verify expected outcomes in tests using methods like **assertEquals**, **assertTrue**, and more, ensuring test reliability with minimal code

**Introduction to GIT & GitHUB**

Git is a distributed version control system, and GitHub is a web-based platform utilizing Git for collaborative software development, offering features like repositories, branching.

**Day 10:**

**Git & Github Commands Implementing**

Git commands manage version control locally, with **git add**, **git commit**, and **git push**, while GitHub commands involve collaboration with **git clone**, **git pull**, and **git merge** for remote repositories

**Introduction to CI-CD Jenkins & Integration with Selenium**

Jenkins, a popular CI/CD tool, automates the software development lifecycle by facilitating continuous integration and continuous delivery through automated building, testing, and deployment pipelines