**Test Automation frameworks**: set of rules, the rules help us write scripts in such a manner that results in “lower maintenance”.

**Advantage of Test Automation framework**

1. Reusability of code
2. Maximum coverage
3. Recovery scenario
4. Low-cost maintenance
5. Minimal manual intervention
6. Easy Reporting

In test automation, we write scripts, scripting is basically:

1. **Arrangement ( or ) Object Identification** : after identifying objects we store these objects into UIMaps or Object repository to reuse them in our scripts.

1. **Action on the Identified Objects:** When the objects are identified, we perform actions on it either by mouse or by keyboard. like click, submit,etc
2. **Assertation:** he assertion is basically checking the object with some expected result.

**Types of Test Automation Framework**

1. **Linear framework**: it is basic level testing, in form of record and playback, everything related to script is defined inside the script. This framework used in small projects.
2. **Module Based Testing Framework**: objects are defined once and reusable in all test methods. Methods are created for individual functionalities. The test case is the collection of these small method’s reusable objects
3. **Data Driven Testing Framework**: Test Data (input and output data) is separated from the script and stored in external files, allows us to execute test automation scripts by passing different types of test data.
4. **Keyword Driven Testing Framework**: also called as table-driven testing we use table format to define keywords(actions) for each function(method) that we want ot execute. Both data and actions are defined outside the script.
5. **Hybrid Testing Framework**: combination of two are more framework
6. **Behavior-Driven Development Framework**: allows automation of functional validations in easily readable and understandable format to Business Analysts, Developers, Testers, etc.