**Automation and Selenium**

1. **What is Automation?**

* Test automation is the use of software to control the execution of tests, the comparison of actual outcomes to predicted outcomes, the setting up of test preconditions, and other test control and test reporting functions.
* Commonly, test automation involves automating a manual process already in place that uses a formalized testing process.
* Although manual tests may find many defects in a software application, it is alaborious and time consuming process.
* In addition it may not be effective in finding certain classes of defects.
* Test automation is a process of writing a computer program to do testing that would otherwise need to be done manually.
* Once tests have been automated, they can be run quickly.
* This is often the most cost effective method for software products that have a long maintenance life, because even minor patches over the lifetime of the application can cause features to break which were working at an earlier point in time.

1. **what is selenium ?**

* Selenium is a free (open source) automated testing suite for web applications across different browsers and platforms.
* It is quite similar to HP Quick Test Pro (QTP) only that Selenium focuses on automating web-based applications.
* Selenium is not just a single tool but a suite of software's, each catering to different testing needs of an organization. It has four components.

Selenium Integrated Development Environment (IDE)

Selenium Remote Control (RC)

Web Driver

Selenium Grid