Assignment-4

Automation Testing (Load Runner up)

Q.1. Which components have you used in Load Runner?

➢ **1. Load Generator: -**

Generates load on the application by following scripts. It simulates multiple virtual users to create realistic user scenarios.

➢ **2. Controller: -**

Controls, launches, and sequences instances of Load Generator. It defines scenarios, allocates resources, and monitors test execution.

➢ **3. Analysis: -**

Assembles logs from various load generators and formats reports for visualization of run result data and monitoring data. It creates performance reports in various formats, such as HTML, Excel, Word, PDF, or custom formats.

Q.2. How can you set the number of Vusers in Load Runner?

➢ We will set the number of Vusers in the Load Generator because Load Generator helps to keep all the Vusers and during running the Scenario in controller it will pump to the load controller.

➢ When Creating Scenario in Controller we have to add the particular script which we want to run. There we have to set the number of Vusers to run for that script. but you have to add Vusers depending on the ur Load Runner license for how many Vusers it supports.

Q.3.What is Correlation?

➢ Correlation is a statistical measure that expresses the extent to which two variables are linearly related (meaning they change together at a constant rate).

➢ It's a common tool for describing simple relationships without making a statement about cause and effect.

Q.4.What is the process for developing a Vuser Script?

➢ **Step 1-** Record the Vuser Script.
➢ **Step 2-** Playback and improve the recorded vuser script.
➢ **Step 3-** Define and test the different run-time parameters.
➢ **Step 4-** Use the script in a LoadRunner scenario.

Q.5 How Load Runner interacts with the application?

➢ Load Runner interacts with the application under test by simulating virtual users (Vusers) that generate load and perform actions on the application.

➢ It helps test the application's performance under various conditions, such as heavy traffic or peak usage, to identify potential bottlenecks and areas of improvement.

➢ 1. Recording Vuser Scripts

➢ 2. Creating Virtual Users (Vusers)

➢ 3. Running Load Tests

➢ 4. Protocol-Specific Communication

➢ 5. Monitoring Performance

➢ 6. Analysis and Reporting

➢ 7. Error Handling and Recovery

Q.6.How many VUsers are required for load testing?

➢ The numbers of virtual users needed for load testing depends on several factors, including the test script, the number of test engine instances, and desired load.

➢ **Test script**: The number of VUsers in the test script.

➢ **Test engine instances**: The number of test engine instances.

➢ **Desired load**: The number of visits per hour, the average session duration, and the desired number of VUsers.

Q.7 What is the relationship between Response Time and Throughput?

➢ Response Time: - The time it takes for a system to process a request and return a result.

➢ Throughput: - The number of requests a system can handle per unit of time.

➢ The correlation between response time and throughput is especially clear when requests are sequential. In this case, longer response times mean lower throughput, which indicates that the system can't handle many transactions.

➢ When developing a software application, you can measure response time and throughput to ensure that it can handle the expected workload. You can use a cloud testing platform like Load Focus to perform load and performance tests.

➢ In general, increasing throughput will decrease the average response time for transactions. However, you can reduce response time for a specific query by allocating more resources to it, which will decrease overall throughput.