1) Which components have you used in Load Runner?

The major components used in Load Runner are:

1. Virtual User Generator (VuGen) – Used to record and generate Vuser scripts.
2. Controller – Used to create, configure, and run performance test scenarios
3. Analysis – Used to analyze results such as graphs, response time, and throughput

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

To set the number of Vusers:

1. Open Load Runner Controller
2. Select/Create a Test Scenario
3. Go to Scenario Groups
4. Select the required script and set Number of Vusers
5. Press Apply and run the test

3)What is Correlation?

Correlation is a process of handling dynamic values in a script during performance testing.

When a server generates changing values (Session ID, Token, User ID), correlation extracts and replaces them automatically to avoid script failure

4) What is the process for developing a Vuser Script?

The process of developing a Vuser script in Load Runner is as follows:

1. Record the business process using VuGen
2. Enhance the script (Parameterization, Think Time, Transaction points)
3. Correlation for dynamic values
4. Replay and verify the script
5. Save and export for execution in the Controller

5) How Load Runner interacts with the application?

Load Runner interacts with the application by:

- Using protocol-based communication (HTTP/HTTPS, Web, Database, etc.)
- Sending multiple virtual user requests to the server
- Measuring performance metrics like Response Time, Throughput, Hits/sec, and Network usage
- Mimicking real user behavior through Vuser scripts

6) How many VUsers are required for load testing?

The number of Vusers depends on:

Expected number of real users

Peak usage

Type of application (small/large scale)

Example: If a website has 500 daily users and peak time usage is 50%, then a Load Test can be run with 250 Vusers

7) What is the relationship between Response Time and Throughput?

Response Time Throughput

Time taken to respond to a user request Amount of data processed in a given time

Relationship:

- When response time increases, throughput decreases
- When response time decreases, throughput increases

They are inversely proportional.

8) Performance Testing on “Sauce Demo” Website

Website Link: https://www.saucedemo.com/

Test Tasks:1) Record all top-level menu

Steps:1. Open VuGen

2. Select protocol Web HTTP/HTML

3. Open https://www.saucedemo.com/

4. Login → Navigate to menu options (Products, About, Logout, etc.)

5. Stop recording and save.

2) Record minimum 10 Vusers on this website

Steps:1. Export the script to Controller

2. Create a new scenario

3. Set Number of Vusers = 10

4. Set Ramp-Up Time

5. Execute the test

3) save all(script,design,graph)

you must save the following:

-script - from vugen

-scenario design -from controller

-graphs and results - from analysis

go to file - save all for each component

9) create a normal script of above website with correlate using hp default website

Application URL: http://127.0.0.1:1080/WebTours/

Username: jojo

Password: bean

Step 1: Correlation (Extracting Dynamic Session ID)

We first capture the dynamic value like userSession.

```
web_reg_save_param("C_userSession",
    "LB=userSession value=\"",
    "RB=\"/>",
     LAST);
```

Step 2: Full Login Script with Correlation

```
    Action()
  {
        // ********** Launch Website **********
```

```
web_reg_save_param("C_userSession",
          "LB=userSession value=\"",
          "RB=\"/>",
           LAST);
          web_url("WebTours",

"URL=http://127.0.0.1:1080/WebTours/"
,
          "Resource=0",
          "RecContentType=text/html",
          "Mode=HTML",
           LAST);

         // ********** Login Request
**********
        web_submit_data("login.pl",

"Action=http://127.0.0.1:1080/cgi-bin
/login.pl",
        "Method=POST",
        "RecContentType=text/html",
        "Mode=HTML",
        ITEMDATA,
```

```
        "Name=userSession",
"Value={C_userSession}", ENDITEM,
        "Name=username",
"Value=jojo", ENDITEM,
        "Name=password",
"Value=bean", ENDITEM,
        "Name=JSFormSubmit",
"Value=off", ENDITEM,
        "Name=login.x", "Value=66",
ENDITEM,
        "Name=login.y", "Value=9",
ENDITEM,
        LAST);

          // ********** Navigate to
Flights page **********
         web_url("Itinerary Button",

"URL=http://127.0.0.1:1080/cgi-bin/we
lcome.pl?page=search",
        "Resource=0",
        "RecContentType=text/html",
        "Mode=HTML",
```

```
        LAST);

                // ********** Logout
**********
        web_url("SignOff Button",

"URL=http://127.0.0.1:1080/cgi-bin/we
lcome.pl?signOff=1",
        "Resource=0",
        "RecContentType=text/html",
        "Mode=HTML",
        LAST);
    return 0;
}
```

10. What is Automation Testing?

Automation Testing is a process of using software tools to execute pre-scripted tests on a software application before it is released. It helps in validating the functionality, performance, and reliability of the application faster

and more accurately than manual testing.

Key points:Reduces manual effort
Increases test coverage
Can run repetitive tests quickly
Ensures consistent results

11. Which Are The Browsers Supported By Selenium IDE?

Selenium IDE primarily supports Firefox and Chrome.

You can install it as a browser extension/add-on.

Tests recorded in IDE can be exported to Selenium WebDriver scripts for multiplebrowsers like Chrome, Firefox, Edge, and Safari

12. What are the Benefits of Automation Testing?

Faster execution: Tests run much quicker than manual testing.

Reusability: Test scripts can be

reused for different versions.

Accuracy: Reduces human errors.

Cost-effective: Saves time and money in the long term.

Continuous Testing: Works well with CI/CD pipelines.

Regression Testing: Easily re-execute tests after code changes

13. What are the Advantages of Selenium?

Open-source: No license cost.

Supports multiple browsers: Chrome, Firefox, Edge, Safari, etc.

Supports multiple languages: Java, C#, Python, Ruby, JavaScript.

Cross-platform: Works on Windows, Mac, Linux.

Integration: Works with frameworks like TestNG, JUnit, Maven, Jenkins.

Large community support: Plenty of tutorials, forums, and examples available

14.Why testers should opt for Selenium and not QTP?

Selenium	QTP/UFT
Free & Open-source	Paid tool
Supports multiple browsers	Mainly supports IE and some other browsers
Supports multiple programming languages	Supports only VBScript
Works on multiple OS	Limited OS support
Better for web applications	Good for desktop apps too
Integration with CI/CD tools	Limited integration

Conclusion: Selenium is preferred for modern web application testing, especially when budget, flexibility, and cross-browser testing are important

15. Test Case Example: Validate “Contact Us” Page on Tops Technologies Website

Here’s a simple manual scenario,

which you can automate using Selenium IDE:

Website: https://www.saucedemo.com/

Test Steps:1. Open the browser (Chrome/Firefox)

2. Navigate to the website URL

3. Enter login credentials:

Username: standard_user

Password: secret_sauce

4. Click Login

5. Navigate to Side Menu → Contact Us page (simulate navigation)

6. Enter your friend’s details: Name, Email, Message

7. Click Submit.

8. Verify success message or confirmation.

Expected Result:User should be able to submit the contact form successfully.

Confirmation message appears after submission

Tip: Selenium IDE can record these steps and you can later export them as WebDriver scripts for more advanced automation