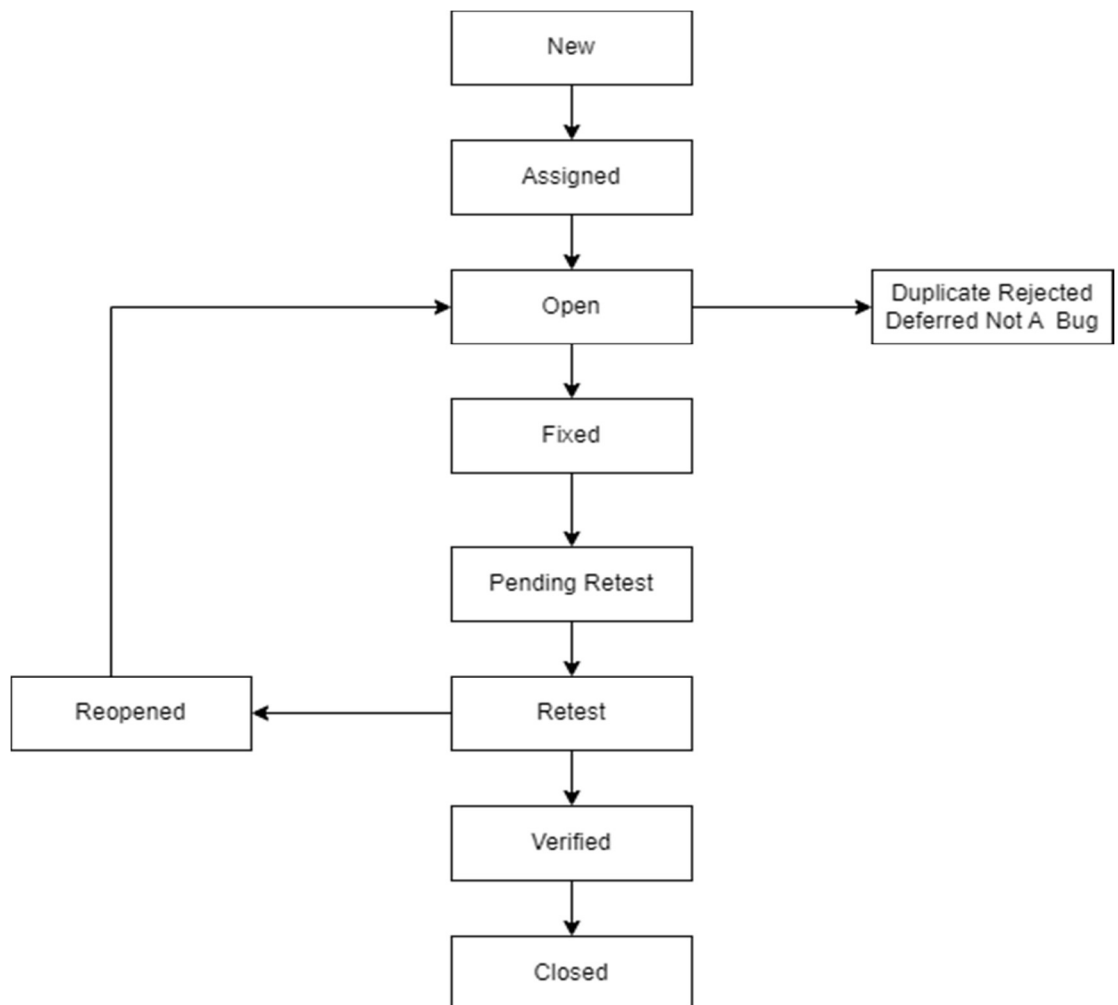


# Software Testing Assignment

## **Module-4**

### **1. What is Bug Life Cycle?**

- A computer bug is an error, flaw, mistake, failure, or fault in a computer program that prevents it from working correctly or produces an incorrect result. Bugs arise from mistakes and.
- Error made by people in either a program's source code or its design.
- When a bug is discovered, it goes through several states and eventually reaches one of the terminal states, where it becomes inactive and closed.



### **2. What is priority?**

- Priority is Relative and Business-Focused. Priority defines the order in which we should resolve a defect. The priority status is set based on the customer requirements.

**Ex:** If the company name is misspelled in the home page of the website, then the priority is high and severity is low to fix it.

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## 3. What is severity?

- Severity is absolute and Customer-Focused. It is the extent to which the defect can affect the software.

**Ex:** If an application or web page crashes when a remote link is clicked, in this case clicking the remote link by a user is rare but the impact of application crashing is severe. So the severity is high but priority is low.

## 4. Which components have you used in Load Runner?

- **Virtual User Generator (VuGen):** VuGen is used to create scripts that simulate the actions of real users. It allows testers to record user interactions with the application, enhance and parameterize the script, and then replay it with multiple virtual users during a load test.
- **Controller:** The Controller is responsible for managing and controlling the virtual users during a performance test. It allows testers to define and control the workload, set up scenarios, and monitor system resources.
- **Load Generators:** Load Generators are machines that execute the scripts created in VuGen. These machines simulate multiple virtual users, generating the desired load on the target application or system. Load Generators work under the control of the Controller.

## 5. How can you set the number of Vusers in Load Runner?

- You can set the number of Vusers in the controller section while creating your scenarios.
- Many other advanced options like ramp-up, ramp-down of Vusers are also available in the Controller section.

## 6. 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.

## 7. What is the process for developing a Vuser Script?

- A vuser script may be created in four steps.
  - 1- Record the Vuser Script.
  - 2- Playback and improve the recorded vuser script.
  - 3- Define and test the different run-time parameters.
  - 4- Use the script in a Load Runner scenario.

## 8. How Load Runner interacts with the application?

- Load Runner simulates user activity by generating messages between application components or by simulating interactions with the user interface such as key presses or mouse movements.
- The messages and interactions to be generated are stored in scripts.

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### 9. How many VUsers are required for load testing?

- Time taken for 1 user to complete 1 transaction:  $[a] + [b] + [c] = 6$  second In 1 hour a user can do:  $60 \times 60 / 6 = 600$  transactions To do 280,000 transactions per hour, we need:  $280,000 / 600 = 467$  VUsers After identifying the scripts and the total VUsers, plan the Load Runner test scenario for the same.

### 10. What is the relationship between Response Time and Throughput?

- Higher throughput generally contributes to lower response times. A system with higher throughput can handle more tasks simultaneously, which can reduce the time each individual task spends in the queue or waiting for resources.
- While response time and throughput are distinct metrics, they are interconnected.
- Higher throughput generally contributes to lower response times. A system with higher throughput can handle more tasks simultaneously, which can reduce the time each individual task spends in the queue or waiting for resources.
- **Definition:** Response time, also known as latency or execution time, is the total time it takes for a system to respond to a request or task from the user.
- **Definition:** Throughput is a measure of the number of units of work (e.g., requests, tasks, transactions) that can be processed by a system in a given amount of time.
- **Measurement:** Throughput is often expressed as transactions per second (TPS) or a similar unit, indicating the system's capacity to handle a certain workload.
- **Focus:** Throughput is more system-centric, indicating the system's ability to handle a high volume of work over time.