**Veritas Company – SQA Engineer Questions** By Sakshi Nasha

**Round 1 (Online Test)**

1)what is the return type of fopen() and open() ?

C functions

fopen(): The fopen function returns **a pointer to a FILE object associated with the named file**. If the file cannot be opened, a NULL value is returned.

The function is used to return a pointer to FILE if the execution succeeds else NULL is returned.

open(): method **returns a bool value indicating whether the file is opened or some error has occurred**. 10.

2)the purpose of dmsg command in linux ?

**dmesg** command also called as “driver message” or “display message” is used to print the message buffer of kernel. The output of this command contains the messages produced by the device drivers.

**Usage of dmesg :**

When the computer boots up, there are lot of messages(log) generated during the system start-up.

So you can read all these messages by using dmesg command. The contents of kernel ring buffer are also stored in **/var/log/dmesg** file.

The dmesg command can be useful when system encounters any problem during its start-up, so by reading the contents of dmesg command you can actually find out where the problem occurred(as there are many steps in system boot-up sequence).

3)command to get count of total cpu available on linux ?

$ cat /proc/cpuinfo

$ nproc

$ grep -c ^processor /proc/cpuinfo

$ lscpu

4)let assume and mask on linux system in 0022 if you create a file on the system what will be the default permission for the file read write?

a) rw-r—r—

b) rwx-r—rw

c)r—rw-rw

d)none

5)how to redirect error messages directed by ls command to a file?

ls > file // > symbol i.e. command-name **>** output.txt

Eg: command-name 2**>** errors.txt

command-name 2**>** stderr.txt

command1 **>** out.txt 2**>** err.txt

6)A certain weather forecast uses the colour of the sky on a given night to predict whether there will be rain the next day. If the sky is red, the prediction is that there will be no rain. On a certain day, it rains, and their forecast is proved wrong. What was the colour of the sky on the previous night?

a) Red

b) Blue

c) Either Red or Blue

d) Neither of the two

Answer: Could have been any colour!

7)Look at the sentences given below

(i) If the contract is valid, then X is liable.

(ii) If X is liable, he will be bankrupt.

(iii) If the bank loans him money, he will not go bankrupt.

Select the statement that is consistent with the above statements

a) The contract is valid and the bank will loan him money.

b) The contract is valid and the bank will not loan him money.

c) The contract is not valid and he will go bankrupt.

d) The contract is not valid and he is liable.

##### Correct Option: B

**From the first two statements we can conclude: 'if the contract is valid then X would be bankrupt.' Statement 3 is 'If he goes bankrupt, then the bank will not loan him the money.' From above two statements, we have: If the contract is valid, then the bank will not loan him the money. This is reflected in option B.**

8) what is the meaning of following declaration int(\*p[5])() ??

a) p is pointer to function

b) p is pointer to such function which return type is array

c) p is array of pointer to function

d) none

9)What is the Data Encryption Standard (DES) ?

a) block cipher // symmetric-key block cipher //standard to encrypt and secure sensitive information using key pair for encrypt n decrypt data

b) stream cipher

c) bit cipher

d) none

10) Which file contains system—wide variables on a system with bash shell?

a) /bash

b) /bin/bash

c) /etc/bash

d) /etc/profile

**Description –** The /etc/profile file stores the system-wide variable statements using the bash shell.

11)What day comes three day after the day which comes two days after the day which comes immediately after the day..

a) Sunday

b) Monday

c) Tuesday

d) Wednesday

The Day Before the given day

12) Which of the following is a form of DOS attack ?

a) Vulnerability Attack

b) Bandwidth Flooding

c) Connection Flooding

d) All

13) a, b, c, d and e are five consecutive integers in increasing order of size. Which one of the following expressions is not odd?

a) ab + c

b) ab + d

c) ac + d

d) ac + e

**Round 2 – Technical Interview**

1) Could you please walk through your resume Projects?

Of course! why not! For sure!

2) What is Paging?

Paging is **a function of memory management where a computer will store and retrieve data from a device's secondary storage to the primary storage**. ... Paging acts as an important part of virtual memory, as it allows programs in secondary storage to exceed the available size of the physical storage. Fixed size frames

USE: Paging is **used for faster access to data**. When a program needs a page, it is available in the main memory as the OS copies a certain number of pages from your storage device to main memory. Paging allows the physical address space of a process to be noncontiguous.

3) What is segmentation

Segmentation is **a memory management technique in which the memory is divided into the variable size parts**. Each part is known as a segment which can be allocated to a process. The details about each segment are stored in a table called a segment table.

4) What’s the difference between paging and segmentation?

Major difference: program is divided into fixed or mounted size pages. || Segmentation: variable sized segments

<https://www.geeksforgeeks.org/difference-between-paging-and-segmentation/>

5) What is a Page Replacement Algorithm? Tell about 4-5 algorithms?

**Page Fault –** A page fault happens when a running program accesses a memory page that is mapped into the virtual address space, but not loaded in physical memory.

**Page Replacement** happens when a requested page is not present in the main memory and the available space is not sufficient for allocation to the requested page.

FIFO

Optimal Page Replacemnet

Least Recently Used(LRU)

<https://afteracademy.com/blog/what-are-the-page-replacement-algorithms>

<https://www.geeksforgeeks.org/page-replacement-algorithms-in-operating-systems/>

6) What is Caching?

Caching is **storing data in a separate disk** (very fast speed disk). The data which is to be used many times results in wastage of time if it is in hard disk, but storing the data in cache reduces this time wastage. Example – Cache is used in systems to speed up the access of data frequently used.

The **process of storing and accessing data** from a cache is known as caching.

7) What is Memory Swapping?

Swapping is a mechanism in which a process can be swapped temporarily out of main memory (or move) to secondary storage (disk) and make that memory available to other processes. At some later time, the system swaps back the process from the secondary storage to main memory.

Though performance is usually affected by the swapping process, it helps in running multiple and big processes in parallel and that's the reason Swapping is also known as a technique for memory compaction.

8) What is the difference between TCP/IP model and OSI model?

| TCP/IP | OSI |
| --- | --- |
| TCP refers to Transmission Control Protocol. | OSI refers to Open Systems Interconnection. |
| TCP/IP has 4 layers. | OSI has 7 layers. |
| TCP/IP is more reliable | OSI is less reliable |
| TCP/IP does not have very strict boundaries. | OSI has strict boundaries |
| TCP/IP follow a horizontal approach. | OSI follows a vertical approach. |
| TCP/IP uses both session and presentation layer in the application layer itself. | OSI uses different session and presentation layers. |
| TCP/IP developed protocols then model. | OSI developed model then protocol. |
| Transport layer in TCP/IP does not provide assurance delivery of packets. | In OSI model, transport layer provides assurance delivery of packets. |
| TCP/IP model network layer only provides connection less services. | Connection less and connection oriented both services are provided by network layer in OSI model. |
| Protocols cannot be replaced easily in TCP/IP model. | While in OSI model, Protocols are better covered and is easy to replace with the change in technology. |

9) What is Link layer?

The link layer includes **the protocols that define communication between local (on-link) network nodes** which fulfill the purpose of maintaining link states between the local nodes, such as the local network topology, and that usually use protocols that are based on the framing of packets specific to the link types.

10) What is Internet layer?

11) What is Multithreading? Tell with Example?

Multithreading is a CPU (central processing unit) feature that allows two or more instruction threads to execute independently while sharing the same process resources. A thread is a self-contained sequence of instructions that can execute in parallel with other threads that are part of the same root process.

Multithreading allows multiple concurrent tasks to be performed within a single process. When data scientists are training machine learning algorithms, a multithreaded approach to programming can improve speed when compared to traditional parallel multiprocessing programs.

Let’s take different examples of thread-based multithreading in Java.

1. A very good example of thread-based multithreading is a word processing program that checks the spelling of words in a document while writing the document. This is possible only if each action is performed by a separate thread.

2. Another familiar example is a browser that starts rendering a web page while it is still downloading the rest of the page.

12) What is IP addressing?

13) What are the trending technologies in IT?

1. Artificial Intelligence and Machine Learning
2. Robotic Process Automation (RPA)
3. Edge Computing
4. Quantum Computing
5. Virtual Reality and Augmented Reality
6. Blockchain
7. Internet of Things (IoT)
8. 5G
9. Cyber Security

14) How u consider cloud as an emergent? Will it be a bloom?

1. Containers rose to fame exactly at a point when the ‘speed of delivery and complexity’ have been very important for the IT industry. Unlike traditional Virtual Machines (VM) that hold the main OS, Container technology arrived as a lightweight software packaging method, where a container package carries a piece of software and its bare essentials (libraries and configuration files) to traverse across different computing environments.

[Docker](https://www.veritis.com/services/docker/) and [Kubernetes](https://www.veritis.com/services/kubernetes/) took container popularity to the next level in terms of adoption.

1. Serverless: With serverless computing, the trend for pay-as-you-go and pay-for-use computing models picked up addressing the majority software burden. This function-as-service model made the cloud computing environment run faster and more efficiently.
2. Dealing with single large applications is old fashioned! Componentization has been the trend to simplify the software process. This process of breaking a larger application into small modules or components to deliver faster is referred to as Microservice.
3. A microservice architecture breaks monolithic apps into small, joined services or modules. This modular approach makes it easy for the delivery of multiple modules by different small teams, independent of the actual ‘bulk’ application. This enables continuous delivery of fully-updated software and ultimately speeds up the app delivery cycle.
4. DevOps: Developers create codes, Operations teams work on metrics. Together, they can create wonders in a software environment giving a competitive edge for organizations. [DevOps tools and resources](https://www.veritis.com/solutions/devops/made-easier-with-devops-tools/), [security integration like DevSecOps](https://www.veritis.com/solutions/devops/devsecops-services/) and more make [DevOps](https://www.veritis.com/solutions/devops/) more special!
5. AI Simplification: building AI applications is complex for many businesses. This is where cloud has a crucial role. Such companies are looking at Cloud for machine learning and other deep learning tools. Because of its wide computing and storage options, the cloud-based AI is emerging as the most-sought solution for businesses of any size in realizing their AI efforts.

15) What are the various services provided by AWS Cloud?

### 1. Amazon EC2 (Elastic Compute Cloud)

EC2 is a cloud platform provided by Amazon that offers secure, and resizable compute capacity. Its purpose is to enable easy access and usability to developers for web-scale cloud computing, while allowing for total control of your compute resources.

### 2. Amazon RDS (Relational Database Services)

Amazon Relational Database Service (Amazon RDS) makes database configuration, management, and scaling easy in the cloud. Automate tedious tasks such as hardware provisioning, database arrangement, patching, and backups – cost-effectively and proportionate to your needs.

RDS is available on various database instances which are optimized for performance and memory, providing six familiar database engines including Amazon Aurora, PostgreSQL, MySQL, MariaDB, Oracle. database, and SQL server.

### 3. Amazon S3 (Simple Storage Service)

Amazon S3, at its core, facilitates object storage, providing leading scalability, data availability, security, and performance. Businesses of vast sizes can leverage S3 for storage and protect large sums of data for various use cases, such as websites, applications, backup, and more.

### [4. Amazon Lambda](https://aws.amazon.com/lambda/)

Lambda permits you to run code without owning or managing servers. Users only pay for the compute time consumed.

Operate code for nearly any application or backend utility without administration. Users just upload the code, and Lambda does the rest, which provides precise software scaling and extensive availability.

### [5. Amazon CloudFront](https://aws.amazon.com/cloudfront/)

CloudFront is a content delivery network platform that executes at rapid rates with the secure distribution of data, videos, apps, and APIs on a global scale with low delay-times. Connected with the global infrastructure of AWS, CloudFront integrates seamlessly with systems like Amazon S3, Amazon EC2, AWS Shield and Lambda@Edge to manage custom code, personalizing the experience.

16) How can IOT be used with Cloud?

<https://www.geeksforgeeks.org/iot-and-cloud-computing/>

IoT has given a new shape to the technology trend. What we see around are the resultant, fitness trackers that come as wristwatches, smart homes, self-driving automobiles, and more. These processes involve enormous volumes of data. How do you process this data? The answer many businesses have is through ‘Cloud’.

Cloud-based data analytics platforms, backed by hyper-scaling servers, facilitate effective data processing. Cloud also offers solution to another key question about setting up IoT, which is basically expensive and complex to build from scratch.

17) What is concept of key pair in cloud?

A key pair, consisting of a public key and a private key, is **a set of security credentials that you use to prove your identity when connecting to a** cloud instance.

18) What is security groups?

Security groups are **used to collect user accounts, computer accounts, and other groups into manageable units**. In the Windows Server operating system, there are several built-in accounts and security groups that are preconfigured with the appropriate rights and permissions to perform specific tasks.

A network security group **contains security rules that allow or deny inbound network traffic to, or outbound network traffic from, several types of Azure resources**. For each rule, you can specify source and destination, port, and protocol.

19) Situation: You can ping an IP address but u can’t SSH it. Describe various parameters why is that so?

20) What is socket? what is packet?

A **socket** is one endpoint of a **two way** communication link between two programs running on the network. The socket mechanism provides a means of inter-process communication (IPC) by establishing named contact points between which the communication take place.

Packet: It is basic unit of information transferred. It consists of number of data bytes which are encapsulated in header or trailer that contains the information that where the packet has came from and where it is going (ie. source and destination).

**Packet switching**:- In this when you search some site packet is send from your site to receiver end this routing is done using IP addressing and if there is traffic in between the path then router will route the packet to its destination

21) What is DNS? and Why DNS is required?

Refer Notes

22) What is difference between Array and List?

| **Basis** | **Array** | **ArrayList** |
| --- | --- | --- |
| **Definition** | An **array** is a dynamically-created object. It serves as a container that holds the constant number of values of the same type. It has a contiguous memory location. | The **ArrayList** is a class of Java **Collections** framework. It contains popular classes like **Vector, HashTable**, and **HashMap**. |
| **Static/ Dynamic** | Array is **static** in size. | ArrayList is **dynamic** in size. |
| **Resizable** | An array is a **fixed-length** data structure. | ArrayList is a **variable-length** data structure. It can be resized itself when needed. |
| **Initialization** | It is mandatory to provide the size of an array while initializing it directly or indirectly. | We can create an instance of ArrayList without specifying its size. Java creates ArrayList of default size. |
| **Performance** | It performs **fast** in comparison to ArrayList because of fixed size. | ArrayList is internally backed by the array in Java. The resize operation in ArrayList slows down the performance. |
| **Primitive/ Generic type** | An array can store both **objects** and **primitives** type. | We cannot store **primitive** type in ArrayList. It automatically converts primitive type to object. |
| **Iterating Values** | We use **for** loop or **for each** loop to iterate over an array. | We use an **iterator** to iterate over ArrayList. |
| **Type-Safety** | We cannot use generics along with array because it is not a convertible type of array. | ArrayList allows us to store only **generic/ type, that's why it is type-safe.** |
| **Length** | Array provides a **length** variable which denotes the length of an array. | ArrayList provides the **size()** method to determine the size of ArrayList. |
| **Adding Elements** | We can add elements in an array by using the **assignment** operator. | Java provides the **add()** method to add elements in the ArrayList. |
| **Single/ Multi-Dimensional** | Array can be **multi-dimensional**. | ArrayList is always **single-dimensional**. |

23) What is composition? How is it different from Inheritance?

The composition is a design technique in which your class can have an instance of another class as a field of your class. Inheritance is a mechanism under which one object can acquire the properties and behavior of the parent object by extending a class.

Composition and Inheritance both provide code reusability by relating class. We can also get the functionality of inheritance when you use composition.

24) Coding: Consider a Linked List. If u have to insert a node : Describe various scenarios with code and pointer movement ?

25) Coding: There is a sorted array in sequence with a missing value in it. How will you find the position and missing number in it?

Input: 1,2,3,4,6,7,8,9,10

Output: 5 is missing position in array is 4

* **Approach:** The length of the array is n-1. So the sum of all n elements, i.e sum of numbers from 1 to n can be calculated using the formula *n\*(n+1)/2*. Now find the sum of all the elements in the array and subtract it from the sum of first n natural numbers, it will be the value of the missing element.

class GFG {

public static int

findDisappearedNumbers(int[] nums)

{

int n=nums.length;

int sum=((n)\*(n+2))/2;

for(int i=0;i<n;i++)

sum-=nums[i];

return sum;

}

public static void main(String[] args)

{

int[] a = { 1, 2, 4, 5, 6 };

System.out.println(findDisappearedNumbers(a));

}

}

26) Coding: An array has various elements {1,2,1,4,5,2,3,3}. Print duplicate elements in it

1. **public** **static** **void** main(String[] args) {
3. //Initialize array
4. **int** [] arr = **new** **int** [] {1, 2, 3, 4, 2, 7, 8, 8, 3};
6. System.out.println("Duplicate elements in given array: ");
7. //Searches for duplicate element
8. **for**(**int** i = 0; i < arr.length; i++) {
9. **for**(**int** j = i + 1; j < arr.length; j++) {
10. **if**(arr[i] == arr[j])
11. System.out.println(arr[j]);
12. }
13. }

27) Why do you need testing as a phase in SDLC?

Testing is one of the most critical processes of the Software Development Lifecycle (SDLC). It helps companies to perform a comprehensive assessment of software and ensure that their product fulfills the client’s needs.

The testing phases of the software development lifecycle help companies to identify all the bugs and errors in the software before the implementation phase begins. If software bugs are not resolved before deployment, they can adversely affect the client’s business.

Besides that, trying to resolve these issues at a later stage can incur substantial costs. The more you delay the detection of these issues, the greater the cost you are likely to face.

There are several ways to perform testing in the software development lifecycle. The techniques used for testing can vary depending on the software development model, the stage of the process, and the objectives of the testing procedure.

28) What is Stochastic testing?

Stochastic testing is black box testing, random testing, performed by automated testing tools. Stochastic testing is a series of random tests over time. The software under test typically passes the individual tests, but our goal is to see if it can pass a large number of individual tests.

29) What is difference between White box testing and black box testing?

https://www.geeksforgeeks.org/differences-between-black-box-testing-vs-white-box-testing/

| Black Box Testing | White Box Testing |
| --- | --- |
| It is a way of software testing in which the internal structure or the program or the code is hidden and nothing is known about it. | It is a way of testing the software in which the tester has knowledge about the internal structure or the code or the program of the software. |
| It is mostly done by software testers. | It is mostly done by software developers. |
| No knowledge of implementation is needed. | Knowledge of implementation is required. |
| It can be referred as outer or external software testing. | It is the inner or the internal software testing. |
| It is functional test of the software. | It is structural test of the software. |
| This testing can be initiated on the basis of requirement specifications document. | This type of testing of software is started after a detailed design document. |
| No knowledge of programming is required. | It is mandatory to have knowledge of programming. |
| It is the behavior testing of the software. | It is the logic testing of the software. |
| It is applicable to the higher levels of testing of software. | It is generally applicable to the lower levels of software testing. |
| It is also called closed testing. | It is also called as clear box testing. |
| It is the least time consuming. | It is most time consuming. |
| It is not suitable or preferred for algorithm testing. | It is suitable for algorithm testing. |
| Can be done by trial and error ways and methods. | Data domains along with inner or internal boundaries can be better tested. |
| **Example:** search something on google by using keywords | **Example:** by input to check and verify loops |
| **Types of Black Box Testing:**   * A. Functional Testing * B. Non-functional testing * C. Regression Testing | **Types of White Box Testing:**   * A. Path Testing * B. Loop Testing * C. Condition testing |

30) What is the difference between Integration and Regression Testing?

An integration test is always performed after the **unit test is completed** on the software. A regression test is performed **after any alteration in the former code** structure of the software.

Integration Testing is performed to **check the effective functionality of the units** between each other. Regression Testing is done to **check if old bugs have been reintroduced** to the system after code modifications take place.

Integration Testing is normally **done before the initial deployment of the application**. Regression Testing takes place in **every stage and can be done before or after the initial deployment**, depending on when the changes are made.

31) What is Epic and User stories

An epic is **a large user story which is too big to fit into a sprint**. This high-level story is usually split into smaller ones, each of which can be completed within a sprint. In that sense, an epic is a collection of user stories with a unified goal.

A user story is **an informal, general explanation of a software feature written from the perspective of the end user**. Its purpose is to articulate how a software feature will provide value to the customer. It's tempting to think that user stories are, simply put, software system requirements.

32) What is Load testing?

**Load Testing** is a non-functional software testing process in which the performance of software application is tested under a specific expected load. It determines how the software application behaves while being accessed by multiple users simultaneously. The goal of Load Testing is to improve performance bottlenecks and to ensure stability and smooth functioning of software application before deployment.

This testing usually identifies –

* The maximum operating capacity of an application
* Determine whether the current infrastructure is sufficient to run the application
* Sustainability of application with respect to peak user load
* Number of concurrent users that an application can support, and scalability to allow more users to access it.

33) What is stress Testing?

Stress testing a Non-Functional testing technique that is performed as part of performance testing. During stress testing, the system is monitored after subjecting the system to overload to ensure that the system can sustain the stress.

The recovery of the system from such phase (after stress) is very critical as it is highly likely to happen in production environment.

## Reasons for conducting Stress Testing:

* It allows the test team to monitor system performance during failures.
* To verify if the system has saved the data before crashing or NOT.
* To verify if the system prints meaning error messages while crashing or did it print some random exceptions.
* To verify if unexpected failures do not cause security issues.

**Round 3: Managerial Round**

1) Can you please walk through your resume?

2) As in your projects mentioned in your resume, have you ever performed Testing in any?

3) If you detected a bug and you reported it, but the developer doesn’t consider it as a defect. How will you convince him?

Thanks for A2A. It's very real time question and in this situation what you can do is first verify that defect/bug is valid or not ? If it is valid then try to reproduce in different system and send screenshot, proper defect report to developer. Now even after this developer is not accepting then you can send email to respective developer regarding issue and cc to you test lead.

If Test lead is also not taking it seriously or not accepting then you can escalate this issue to Test Manager. Even though if they are not accepting then take final call with Business Analyst or Product Owner. B.A/P.O is the person who closely interact with client/business, so you can check with him. If B.A is telling this is not a bug then you can write a B.A comment in JIRA/Test Case and close it.

If B.A is accepting this as a defect/bug then send email and inform why this is a bug to respective developer, cc to development lead, test lead, test manager, B.A/P.O

4) You are given a mobile from the company itself. What are the various parameters as a tester (Jot 15 parameters) you would consider before purchasing it?

<https://www.softwaretestinghelp.com/software-tester/> //16 points

<https://artoftesting.com/mobile> //35 points

5) What is Functional Testing?

<https://www.guru99.com/functional-testing.html>

6) What are the 5 parameters you would consider in network testing? ( Latency, Response Time, Traffic Speed ,Throughput)

Latency is **measured by the time taken for information to get to its target and back again**. It's a round trip. Sometimes, latency means delay which is a very problematic issue when working with remote data centers. Data hops through nodes till it's sent from the server so the bigger the distance the more the delay.

**Response Time Testing** measures the time taken for one system node to respond to the request of another. It is the time a system takes to reach a specific input until the process is over. For example, you have an API, and you want to know exactly how much time it takes to execute it and return data in JSON. Response Time measures the server response of every single transaction or query.

Response time starts when a user sends a request and ends at the time that the application states that the request has completed.

Traffic speed: It determines whether the software product responds rapidly.

Throughput – indicates **the number of transactions per second an application can handle**, the amount of transactions produced over time during a test. ... To ensure that, load and performance testing is the solution.

7) How will you perform negative testing in Login Page?

You need to do a few things:

* try to put an invalid/not allowed/nonsensical value into every possible field
* try to register as a user that already exists
* try to leave one or more mandatory fields blank
* try to exceed the limitations of each field (e.g. put 100 characters into a 50-character field)
* Invalid user name
* Invalid / wrong password
* Valid uname and valid password but they don't match.
* Using non allowed characters in username.
* Using password which is not valid according​ to registration.
* Using case sensitive password e.g. correct password is “CdfgH” and we enter “cdfgh”
* Using case sensitive username e.g. correct username is “AmighK” answer enter is “amighk”.
* Using expired password.
* Using old password post forgot password completion.

8) How would you deal with pressure?

9) Why do u consider testing as your future career?

10) If you are selected for this position, what roles/responsibilities you would do? 11) What is reporting and logging in Testing?

A test report is **an organized summary of testing objectives, activities, and results**. It is created and used to help stakeholders (product manager, analysts, testing team, and developers) understand product quality and decide whether a product, feature, or a defect resolution is on track for release.

Test log is one of the crucial test artifact prepared during the process of testing. It provides a detailed summary of the overall test run and indicates the passed and failed tests. Additionally, test log also contains details and information about various test operations, including the source of issues and the reasons for failed operations. The focus of this report/document is to enable post execution diagnosis of [failures and defects](https://www.professionalqa.com/defect-and-failure) in the software.

12) What is manual and automation Testing?

Manual testing is a software testing process in which test cases are executed manually without using any automated tool. All test cases executed by the tester manually according to the end user's perspective. It ensures whether the application is working, as mentioned in the requirement document or not. Test cases are planned and implemented to complete almost 100 percent of the software application. Test case reports are also generated manually.

There are various methods used for manual testing. Each technique is used according to its testing criteria. Types of manual testing are given below:

* White Box Testing
* Black Box Testing
* Gray Box Testing

**Automation Testing** is a software testing technique that performs using special automated testing software tools to execute a test case suite.

TOOLS:

### 1. Selenium

Selenium is a testing framework to perform web application testing across various browsers and platforms like Windows, Mac, and Linux. Selenium helps the testers to write tests in various programming languages like Java, PHP, C#, Python, Groovy, Ruby, and Perl. It offers record and playback features to write tests without learning Selenium IDE.

Selenium proudly supports some of the largest, yet [well-known browser vendors](https://www.testing-whiz.com/blog/comparing-top-10-cross-browser-testing-tools) who make sure they have Selenium as a native part of their browser. Selenium is undoubtedly the base for most of the other software testing tools in general.

[Learn more about Selenium](https://www.seleniumhq.org/).

### 2. TestingWhiz

TestingWhiz is a test automation tool with code-less scripting by [Cygnet Infotech](https://www.cygnet-infotech.com/), a CMMi Level 3 IT solutions provider. TestingWhiz tool’s Enterprise edition offers a complete package of various automated testing solutions like web testing, software testing, database testing, [API testing](https://dzone.com/articles/12-great-web-service-testing-tools), mobile app testing, regression test suite maintenance, optimization, and automation, and cross-browser testing

13) Explain Integration Testing with Example

Integration testing (sometimes called integration and testing, abbreviated I&T) is **the phase in software testing in which individual software modules are combined and tested as a group**. Integration testing is conducted to evaluate the compliance of a system or component with specified functional requirements.

**Integration testing** tests integration or interfaces between components, interactions to different parts of the system such as an operating system, file system and hardware or interfaces between systems. Integration testing is a key aspect of software testing.

It is essential for a software tester to have a good understanding of integration testing approaches since they will come across it in every project in their [**software testing career path**](http://tryqa.com/beginners-guide-to-career-in-software-testing-growth/).

14) What are the various types of Integration Testing?

## Types of Integration Testing

Integration testing can be classified into two parts:

* **Incremental integration testing**
* **Non-incremental integration testing**

### Incremental Approach

In the Incremental Approach, modules are added in ascending order one by one or according to need. The selected modules must be logically related. Generally, two or more than two modules are added and tested to determine the correctness of functions. The process continues until the successful testing of all the modules.

Incremental integration testing is carried out by further methods:

* Top-Down approach
* Bottom-Up approach

### Top-Down Approach

The top-down testing strategy deals with the process in which higher level modules are tested with lower level modules until the successful completion of testing of all the modules. Major design flaws can be detected and fixed early because critical modules are tested first. In this type of method, we will add the modules incrementally or one by one and check the data flow in the same order.

### Bottom-Up Method

The bottom to up testing strategy deals with the process in which lower level modules are tested with higher level modules until the successful completion of testing of all the modules. Top level critical modules are tested at last, so it may cause a defect. Or we can say that we will be adding the modules from **bottom to the top** and check the data flow in the same order.

### Hybrid Testing Method

In this approach, both **Top-Down** and **Bottom-Up** approaches are combined for testing. In this process, top-level modules are tested with lower level modules and lower level modules tested with high-level modules simultaneously. There is less possibility of occurrence of defects because each module interface is tested.

### Non- incremental integration testing

We will go for this method, when the data flow is very complex and when it is difficult to find who is a parent and who is a child. And in such a case, we will create the data in any module bang on all other existing modules and check if the data is present. Hence, it is also known as the **Big bang method**.

In this approach, testing is done via integration of all modules at once. It is convenient for small software systems, if used for large software systems identification of defects is difficult.

Since this testing can be done after completion of all modules due to that testing team has less time for execution of this process so that internally linked interfaces and high-risk critical modules can be missed easily.

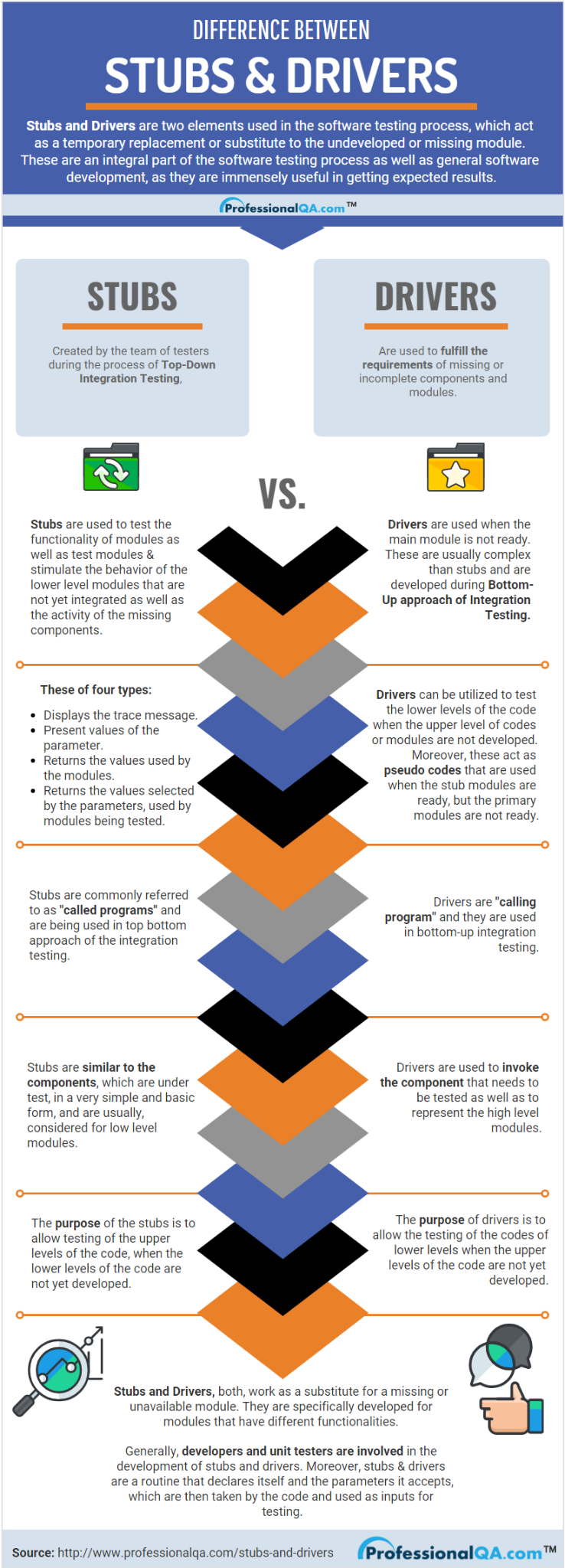
15) What is Scrub and driver?

Stubs are used to test modules and are created by the team of testers during the process of [Top-Down Integration Testing](https://www.professionalqa.com/top-down-integration-testing). With the assistance of these test stubs testers are capable of stimulating the behaviour of the lower level modules that are not yet integrated with the software. Moreover, it helps stimulate the activity of the missing components.

There are basically four types of stubs used in top-down approach of integration testing, which are mentioned below:

* Displays the trace message.
* Values of parameters are displayed.
* Returns the values that are used by the modules.
* Returns the values selected by the parameters that were used by modules being tested.

Drivers, like stubs, are used by software testers to fulfil the requirements of missing or incomplete components and modules. These are usually more complex than stubs and are developed during the Bottom-Up approach of Integration Testing. Drivers can be utilized to test the lower levels of the code, when the upper level of codes or modules are not developed. Drivers act as pseudo codes that are mainly used when the stub modules are ready, but the primary modules are not ready.



16) What is the difference between Verification and Validation?

**Verification** is the process of checking that a software achieves its goal without any bugs. It is the process to ensure whether the product that is developed is right or not. It verifies whether the developed product fulfills the requirements that we have. Verification is static testing.

Verification means **Are we building the product right?**

**Validation** is the process of checking whether the software product is up to the mark or in other words the product has high level requirements. It is the process of checking the validation of product i.e. it checks what we are developing is the right product. it is validation of actual and expected product. Validation is the dynamic testing.

Validation means **Are we building the right product?**

| Verification | Validation |
| --- | --- |
| It includes checking documents, design, codes and programs. | It includes testing and validating the actual product. |
| Verification is the static testing. | Validation is dynamic testing. |
| It does *not* include the execution of the code. | It includes the execution of the code. |
| Methods used in verification are reviews, walkthroughs, inspections and desk-checking. | Methods used in validation are Black Box Testing, White Box Testing and non-functional testing. |
| It checks whether the software conforms to specifications or not. | It checks whether the software meets the requirements and expectations of a customer or not. |
| It can find the bugs in the early stage of the development. | It can only find the bugs that could not be found by the verification process. |
| The goal of verification is application and software architecture and specification. | The goal of validation is an actual product. |
| Quality assurance team does verification. | Validation is executed on software code with the help of testing team. |
| It comes before validation. | It comes after verification. |
| It consists of checking of documents/files and is performed by human. | It consists of execution of program and is performed by computer. |

17) How will you meet timely projects in Critical issues?

1. Plan Effectively.
2. Hire the Right Team.
3. Assign Accountability.
4. Keep Clear Communication.
5. Choose the Right Tools.
6. Monitor Progress Daily.

**Round 4: HR round**

1. Introduce yourself

2. Its humanly to get angry at times. So, what makes you angry?

3. What if that thing which makes you angry is done by your manager? How will you deal with that?

4. How do you send your leisure time?

5. What do you know about Veritas?

Veritas Technologies LLC provides software solutions. The Company designs and develops enterprise data management software solutions that helps organizations to protect their mission-critical data, as well as offers cloud data management, data protection, compliance readiness, and storage optimization services.

6. Whom do you consider as your Role model in life?

7. Are there any regret in your life so far?

8. Why do you choose Veritas?

9. Was Veritas your personal interest or is it that campus me aayi hai so you are applying? 10. If not Veritas then which other companies?

11. Are you planning for any further plans for masters? Post graduate course? 12. What can Veritas expect from you as an employee?

13. Any questions from your side?