

BASIC PROGRAMMING INTERVIEW QUESTIONS & ANSWERS

Question 1. What Is Multithreading?

Answer:

Multithreading is the ability of a program or an operating system process to manage its use by more than one user at a time and to even manage multiple requests by the same user without having to have multiple copies of the programming running in the computer. Central processing units have hardware support to efficiently execute multiple threads. These are distinguished from multiprocessing systems (such as multi-core systems) in that the threads have to share the resources of a single core: the computing units, the CPU caches and the translation lookaside buffer (TLB).

Question 2. Tell Me Why Constructors Does Not Supports Virtual Functions?

Answer:

Constructor does not support virtual functions because we need an object to invoke a virtual method in the first place and more over constructors are used to initializing objects, which is a static type. Virtual functions are invoked on the dynamic type of the object, hence the object may not be properly initialized when a constructor call is made. Since the

derived part of the object would not be initialized during the execution of base class constructor, hence calling any virtual method from base class constructor does not work well.

Question 3. Explain What Are Mutants And Explain Mutation Testing?

Answer :

A mutated program is called Mutant and Mutation testing is based up on seeding the Implementation with a Fault by applying mutation Operator and determining whether Testing Identify this fault is called Mutation testing

Question 4. What Is Race Around Condition?

Answer :

A race around condition is a fault in the process or a system where the output or the result of the process is critically and unexpectedly dependent on the timing of other events. Race condition especially occurs in multithreaded or in distributed systems.

Question 5. Do You Know Hows Do Electrons Travel Through A Lightning Bolt?

Answer :

Generally, lightning is negatively charged. During thunderstorms. The Earth's is recharged and its surface becomes good conductor of electricity. The Earth is charged negatively and the atmosphere is charged positively. Electrons flow upwards from the entire surface of the Earth. Thunderstorms help transfer the negative charges back to Earth.

Question 6. Explain How To Calculate Response Time In Client-server Technology?

Answer :

This can be done by measuring the time taken by the first byte to reach the client (TTFB) and the time taken by the last byte of the response to reach the client (TTLB) by using various network bandwidths between the client and the server.

Question 7. How To Delete A Entire Linked List?

Answer :

You delete a linked list by iterating through the list and deleting the nodes one by one.

- o Begin at the head
- o Get address of first node

- o Get address of next node
- o Delete first node
- o Do not to access next of the current node after deleting the current node.
- o Move next node to first node
- o Repeat

If the list is empty, the head pointer will be NULL.

Question 8. Define Rom Image And Explain Each Section Of A Rom Image In An Exemplary System?

Answer :

A ROM image captures the data from a read-only memory chip, such as hardware firmware, video and arcade game boards, etc. It is often used for emulation.

Question 9. Explain What Is The Difference Between Process And Thread With Real Time Examples?

Answer :

- o Threads share the address space of the process that created it; processes have their own address.

- o Threads have direct access to the data segment of its process; processes have their own copy of the data segment of the parent process.
- o Threads can directly communicate with other threads of its process; processes must use interprocess communication to communicate with sibling processes.
- o Threads have almost no overhead; processes have considerable overhead.
- o New threads are easily created; new processes require duplication of the parent process.
- o Threads can exercise considerable control over threads of the same process; processes can only exercise control over child processes.
- o Changes to the main thread (cancellation, priority change, etc.) may affect the behavior of the other threads of the process; changes to the parent process does not affect child processes.

Question 10. How To Increase Transfer Rate Of An Hard Disk?

Answer :

See if any among these helps to increase Hard disk transfer rate...

- o Try using RAID setup
- o In Device Manager under ATA/ATAPI Controllers verify if the hard disk is running in UDMA mode.
- o Update motherboard chipset drivers
- o Under Properties of the drive, Hardware Tab -> Properties of the hard disk:
 - o Enable write caching
 - o Enable advanced performance

Question 11. What Are The Advantages & Disadvantages Of Vertical Cluster & Horizontal Cluster? Which Is The Best? Why?

Answer :

In horizontally clustered environment, cluster-enabled application is deployed on multiple physical machines. Each machine is available for requests. Horizontal clusters offers protection over hardware failure, increases efficiency, provides load balancing and process failover.

However, since there are many number of physical machines involved the installation and maintenance cost increases proportionally.

In Vertical clustering, multiple application server instances are hosted on the same physical machine. This type of

clustering provides increased efficiency, load balancing and process failover. However, if hardware fails then there may not be ready alternative.

Question 12. Explain Cdrom Access Is Random Or Semi Random Or Sequential?

Answer :

CDROM access is sequential.

Magnetic sequential access memory is typically used for secondary storage in general-purpose computers due to their higher density at lower cost compared to RAM, as well as resistance to wear and non-volatility. Examples of SAM devices still in use include hard disks, CD-ROMs and magnetic tapes. Historically, drum memory has also been used.

Question 13. What Is Dirty Dimension?

Answer :

If a Record occurs more than one time in a table by the difference of a non-key attribute then such a dimension is called Dirty Dimemnsion.

Question 14. What Is The Hierarchy Levels In Data Warehousing Concepts Level?

Answer :

In-accurate data is often termed as dirty data and has been characterized as missing data, wrong data and compound data with different representations.

Ex. :- customer dimension in which the same person can appear multiple times probably not with exactly the same spellings or other attributes.

Question 15. Give One Real Time Application Where Static Variables Are Used?**Answer :**

Thinks of a situation where you need to do some work just once in a function irrespective of how many times that function is invoked then u can have a static variable which will keep a track of it. eg

```
int main () { static int once = 0; if (!once) { once++; /*code need to be executed once*/ } /*reset of the code*/ }
```

Question 16. What Is A Lowest Level Computer Language?**Answer :**

8085 Assembly language is widely known as the lowest level language

Question 17. How To Implement "queue" Functionality By Using "2 Stacks"?

Answer :

- o Take 2 empty stacks.
- o Fill the 1st stack with some items (eg: input 100, 101, 102, 103).
- o Now read the items from 1st stack in LIFO order and write to 2nd stack. (By this the 2nd stack will get the items in the order .. 103, 102, 101, 100)
- o Now read the items from 2nd stack in LIFO order i.e. the output will be 100, 101, 102, 103. (this is the queue order FIFO with respect to the actual items entered in 1st stack.)

Question 18. What Is Multitasking?

Answer :

Two or more process run concurrently called MultiTasking.
There are two types of multitasking.

- o Process-based.
- o Thread-based.

Process-based multitasking allows your computer to run two or more programs concurrently.

Thread-based multitasking means single program can perform two or more task simultaneously.

Question 19. What Is How Chat Server Works?

Answer :

through a socket programming bidirectional communication.

Question 20. Give The Complete Difference Between Database, Relational Database And Object Database?

Answer :

- o A database is an organized collection of information. It is structured so you can jump to the information by using a key, and find related information by navigating a path. A sequential (flat) file is not considered a database.
- o A relational database contains one-to-many relationships.
- o A networked database contains one-to-many and many-to-many relationships.

Question 21. Why Don't We Give A & Before Reading A String In C Language?

Answer :

`scanf("%s",str);` why is it not `scanf("%s",&str);`

We don't give an & before reading a string. This is so because a string is a character array. For an array, be it integer or character or any other array, declared as `int a[10]` or `char str[20]`, the name 'a' or 'str' stores the base address of the array, that is the address of the memory location where the array is starting. The `scanf` statement requires the address of the location to store the value input by the user. Since `str` already stores the address of the memory location we do not need to add the & before it.

Question 22. How To Hide A Text In Cognos Reportnet?

Answer :

yes, we can hide by 2 possible options.

- o make the box type none to the text.
- o Use boolean.

Question 23. Explain What Is The Osi Model?

Answer :

OSI is Open System Interface Model. It is a concept which is used to make data transfer in steps. There are 7 layers and each layer interact with its counterpart. earlier a product made by any abc co was able to communicate with the same

company product. to communicate with different co's products it was created. as it's name shows "OPEN System Interface".

Question 24. Tell Me How Can We Check Out The Files From Cvs?

Answer :

In GUI mode i.e winCVS, On menubar, there is checkout option. In that u can click and select the module that you want to check out.

In UNIX mode, you have to execute the following command,
>CVS checkout -r

Question 25. Explain What Are The Differences Between Desktop And Enterprise Application?

Answer :

Desktop application runs on a single machine. It could be a part of network. But Application and database resides on same machine. And only one user can access it at a time. Enterprise application is generally a multi-tier application. Many a concurrent users can access data and application at a time.

Question 26. What Is Virtual Memory Under Linux?

Answer :

Linux supports virtual memory, that is, using a disk as an extension of RAM so that the effective size of usable memory grows correspondingly. The kernel will write the contents of a currently unused block of memory to the hard disk so that the memory can be used for another purpose. When the original contents are needed again, they are read back into memory. This is all made completely transparent to the user; programs running under Linux only see the larger amount of memory available and don't notice that parts of them reside on the disk from time to time. Of course, reading and writing the hard disk is slower (on the order of a thousand times slower) than using real memory, so the programs don't run as fast. The part of the hard disk that is used as virtual memory is called the swap space.

Question 27. How To Remove Sections In Report In Reportnet?

Answer :

To remove a section, do the following:

Steps :

- o Delete the section header.

- o From the View menu, click Page Structure.
- o Expand Page Body until you see the data container in which you added the section. The data container is nested in the List object that is created when you add a section.
- o Drag the data container to Page Body. The data container appears as a node of Page Body.
- o Delete the List object. In the Query Explorer, the query that is created when you add a section is also deleted.
- o From the View menu, click Page Design.
- o In the Insertable Objects pane, click the Query Items tab.
- o Drag the query item that was used as a section header back into the data container.

Question 28. Explain How To Write A Class In C++ Using Only One Object?

Answer :

```
class singleton{ static int count; singleton() { if (count==1) {
exit(0); } count++; }}singleton::count =0;void main(){singleton
s1;singleton s2;}program is terminated as soon as second
object is created.
```

**Question 29. Explain What Is Actually Meant For Buffer?
How Does It Work?**

Answer :

Buffer is something that is used to hold the data temporarily.

Ex- If we are watching any thing online, then buffering of data takes place i.e. for sometime data gets stored in buffer then processed.

Question 30. A Function Is Running, It Has Its Own Stack Pointer, Memory Area Now It Invokes Another Function From This Point What Changes Will Be In Its Memory Area And What Other Changes In Data Segment, Stack Segment, Heap Segment. I Want A Complete Picture Of Memory Architecture?

Answer :

There will be a lot of changes in fact. First of all, all the variables the function was using need to be pushed into the stack. (we need all these variables when we return from the other function). The Program counter will be pushed to stack too... (When the "return" of second function occurs we should know where to 'return' to) These are the basics which are bound to happen when a function calls another.

Question 31. Tell Me Can We Execute Any Simple Program Without Installing Any Operating System?

Answer :

No! we can not run any simple program without using any interface such as operating system or system software. but in some cases like machine level language or firmware run without any software because it directly communicates with hardware and makes the hardware active so other programs can run using this platform.

Question 32. Tell Me How To Execute 13,000 Test Cases In A Faster Way In Manual Testing?

Answer :

Cannot execute 13,000 test cases faster. First need to analyse the severity and priority of the functionality wise and then the selected test cases alone have to be executed.

Question 33. What Is The Difference Between Review And Walkthrough? On Testing Perspective ,who Will Do Review And Walkthrough? Clarify With An Real Example?

Answer :

In layman's terms walk-through is nothing but running through the requirements while review is making an analysis of the

progress and if the case may be a change has to be recommended

Question 34. What Is Meant By Inspection And Who Will Lead The Inspection And Roles Involved In Inspection?

Answer :

Review is more formal than walkthrough. Walkthrough is done with a purpose of gain understanding of system and learning.

Question 35. Define Raster And Vector Data. Explain What Is The Difference Between Raster And Vector Data?

Answer :

Raster data is a set of horizontal lines composed of individual pixels, used to form an image on a CRT or other screen. Raster data makes use of matrix of square areas to define where features are located. These squares are typically of uniform size, and their size determines the detail that can be maintained in the dataset. Raster data represent square areas, they describe interiors rather than boundaries. Vector data use X and Y coordinates to define the locations of points, lines, and areas (polygons) that correspond to map features, vector data tend to define centers and edges of

features.They are excellent for capturing and storing spatial details

Question 36. What Is The Part Of Compiler That Keeps Track Of Names And Their Attributes?

Answer :

symbol table

Question 37. Planning To Start A Career As A Manual Tester ,is Taking A Course Compulsory Or Can I Get The Subject By Referring Through Information On Internet?,does Manual Testers Use Any Tools In Real Time

Answer :

Not necessary that you have to take any course provided if you are not fresher. Suppose if you are working in any company as design engineer, then as you have the domain knowledge working as end user. Then you can definitely use this knowledge to test the software and find bugs. And regarding processes and tools used every company has different strategy which can be managed or learn once you get into that company.

Question 38. What Kind Of Useful Task Does Stacks Support?

Answer :

Stack supports four major computing areas, they are

- 1.expression evaluation.
- 2.subroutine return address storage.
- 3.dynamically allocated local variable storage.
- 4.subroutine parameter passing.

Question 39. Tell Me What Are Application Clusters In Crm?

Answer :

CRM application cluster is a software that ranges in size and complexity making it possible for an organization to select the type of software needed the most. It consists of how a customer is related to sales, marketing and fulfillment, customer service and support, retention and loyalty program and contact and account management.

Question 40. Tell Me What Is The Difference Between Connecting To Rdbms Using Odbc And Native Drivers?

Answer :

ODBC is an open standard for software providers to follow when creating an intermediate layer between the database and the application using the database. Having "open standards" usually means that different applications can write their code the same way no matter which database they are using, as long as that database comes with an ODBC driver. In contrast, native drivers are built with one specific database in mind. Thus, applications written to use the native driver will only work with one particular database. You will lose flexibility in your code's ability to switch database vendors, but you might gain performance enhancements due to the fact that the driver is custom made for the database and may be able to take advantage of an "insider's view" of the database software.

Question 41. Explain Virtual Function?

Answer :

virtual functions are the functions by which we can implement the concept of polymorphism, i.e. one name with several distinct forms. A function preceded by a virtual keyword makes a function virtual. This means the compiler turns on the mechanism to perform late binding or dynamic binding. More of all, the same function name can be used to perform different tasks.

Question 42. What Is Data Modelling?

Answer :

Data Modelling is designing of the data content and structure of the database.

The data model documents the structure of and interrelationships between the data - it is presented as a combination of simple diagrams and written definitions and is independent of any DBMS software or hardware considerations.

Question 43. Explain What Are Dangling Pointers, virtual Constructors And Virtual Destructors?

Answer :

```
char *str=new str;char *str1=new str1;strcpy(str,str1);delete str;
```

at this time str will act as dangling pointer because when str1 is copied to str ,then it will create the deep copy,so when we will delete that one then still there is existing of its instance.That is called dangling pointer.

Question 44. Explain Can You Deploy Mercury Quicktest Professional On Mercury Managed Service?

Answer :

Yes. Mercury Managed Services can provide you the benefits of fast time to value, on-going mentoring and lower total cost of ownership for Mercury QuickTest Professional as long as you are also utilizing Mercury Managed Services for Quality Center.

Question 45. What Is Paging?

Answer :

Pageing is a memory Management technique which allows users program memory to be non continuous, the technique is used to remove the problem of external fragmentation. In this technique entire user Memory is divided into fixed size page frames, a Page Map table is used to map the user process pages to physical memory page.

Question 46. What Is Swapping?

Answer :

Swapping is to change the value to each other in

```
c++#include<iostream>using namespace std;void main(){int a,b;cout<<"Enter the value of a :";cin>>a;cout<<"Enter the value of b :";cin>>b;a=a+b;b=a-b;a=a-b;cout<
```

Question 47. I Want To Run Unix Script From Windows Batch File That Will Connect Automatically To Unix With Username And Password. Can Anybody Help Me How I Can Write The Script File?

Answer :

If you are looking at connecting to a *nix machine from windows then you can very well use a windows batch file. The latest windows scripting package provides pretty powerful tools similar to *nix scripting. Or you can try installing Cygwin which will provide the windows port of *nix tools that are usually used in *nix scripts. But if you are running it from windows then the best one would be to write a windows batch file.

Question 48. When The Variables Are Pushed Into The Stack, Which Method Is Used To Retrieve Them From It

Answer :

pop method is used for retrieving variables from stack

Question 49. How Do I Put A Background On A Website Using Css Coding?

Answer :

If you want to put background color you can use background-color property of CSS in body tag.

If you want to put background image you can use background-image property of CSS in body tag.

Question 50. Suppose If Get Method Is Less Secure Than Post Method Then Why They Introduced Get Method.and Well Use Only Post Method Alone. Wats The Need For Get Here?

Answer :

- o Using GET method form data is appended to URL while using POST method it is transferred in the message body.
- o GET method is intended for information retrieval. It should be used to retrieve information that do not change state of server.
- o For functions such as login, POST method is preferable due to security reasons.

Question 51. Explain The Term "non Volatile Memory" States?

Answer :

1. that memory is retained in the memory unit for some time even after power failure to the memory unit.

2. that memory is lost by power failure but regained as soon as power is restored.
3. that memory is retained in the memory unit at higher temperature.
4. that memory is retained in the memory unit for years after power failure to the memory unit.

Question 52. What Is The Main Difference Between Portability And Platform Independent?

Answer :

I agree it is correct to say that Java is platform independent, but it is due to the Java Virtual Machine. Java programs are only intermediately compiled, which allows adaptation to the given environment it needs to run in later.

An example of a portability issue is the creation of Unix. The first version was not portable. It was specific only to that computer's architecture. Unix became portable when it was rewritten in C. The new version written in C was portable because C served as a "translator", if you will, between what underlying architecture or devices were physically in the computer and what unix wanted them to do.

Question 53. How To Count Number Of Html Pages In A Website?

Answer :

you can write a simple ASP program to run against the root directory of the website.

Question 54. Tell Me What Is The Difference Between Collision Domain And Broad Cast Domain?

Answer :

A collision domain is a logical area in a computer network where data packets can "collide" with one another, in particular in the Ethernet networking protocol. The more collisions in a network the less efficient it is.

A broadcast domain is a logical area in a computer network where any computer connected to the computer network can directly transmit to any other in the domain without having to go through a routing device.

Question 55. Explain The Difference Between Update, Verify And Debug Mode?

Answer :

These definitions are for winrunner Run modes

o Verify: When ever we want to check the behavior of an application and to save the result we use verify run mode.

- o update: When ever we want to create a new expected results for GUI checkpoints and Bitmap checkpoint we use update run mode.
- o Debug: When ever we want to run a script after update without any errors in syntax we use Debug run mode.

Question 56. How To Download The Whole Website Not Internet Example Some Small Data Related Websites?

Answer :

by using any website copier software.

Question 57. Explain What Is Port? What Is Http Port, Ftp Port, Telnet Port And Others?

Answer :

ports are like different gates of the building. Each gate is having its own function.

- o HTTP Port : it will allow only HTTP people. It communicates in HTTP protocol. any request with http:// .. HTTP.. is Hyper Text Transfer Protocol.
- o FTP Port : File Transfer Protocol.... used to upload and download files..... used to update websites from the local machine... it requires FTP host name, username and

password.. and on the host machine FTP services should be enabled.

- o Telnet port: telenetting with other computer in hybrid environment... from thin client to server..

Question 58. Explain How Search Engines Work?

Answer :

Indexing. Searching. Web search engines work by storing information about many web pages, which they retrieve from the HTML markup of the pages. These pages are retrieved by a Web crawler (sometimes also known as a spider) - an automated Web crawler which follows every link on the site.

Question 59. How To Remove A Column From Table?

Answer :

You can remove a column but first of all you should see that column doest have any values and it should not be a primary key.

ALTER TABLE DROP COLUMN

Question 60. Tell Me What Is The Difference Between Client Response Time And Server Response Time?

Answer :

The major difference between the response time between a client & server is of - response time.

Usually client response time is lesser in comparison to the server response time.