

Cognizant Interview Questions for Freshers



Cognizant Technical Interview Questions and Answers

1. What is a dangling pointer in C?

- A dangling pointer is a pointer that does not point to a valid object of the appropriate type. It appears when a pointer is in the stack but not in the memory in a heap. Char *p =NULL; A dangling pointer attempt to deallocate without allocating space will result in a segmentation fault.
- Dangling pointers arise during object destruction, when an object that has an incoming reference is deleted or deallocated, without changing the data of the pointer, so that the pointer points to the memory location of the deallocated memory.

2. a++ or a = a+1, which can be recommended to increment the value by 1 and why?

a++, as it is single machine instruction (INC) internally.

3. What are lvalue and rvalue?

The expression appearing on the right side of the assignment operator is called rvalue. Rvalue is assigned to an lvalue, which appears on the left side of the assignment operator. The lvalue should designate as a variable not a constant.

4. How will you print the address of a variable without using a pointer?

```
#include <stdio.h>

int main(void)
{
// declaring the variables

int x;

float y;

char z;

printf("Address of x: %p\n", &x);

printf("Address of y: %p\n", &y);
```

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```
printf("Address of z: %p\n", &z);  
  
return 0;  
  
}
```

5. What is overloading in OOPs?

Overloading is a process used to avoid redundant code where the same method name is used multiple times but with a different set of parameters. The actual method that gets called during runtime is resolved at compile-time, thus avoiding runtime errors.

6. What is data abstraction?

In oops, abstraction is one of three main principles (along with encapsulation and inheritance). Through the process of abstraction, a programmer hides all but the relevant data about an object to reduce complexity and increase efficiency. Copyright to <https://www.freshersnow.com/>

7. Difference between memcpy() and strcpy() functions in C

- memcpy() function is used to copy a specified number of bytes from one memory to another.
- Whereas, strcpy() function is used to copy the contents of one string into another string.
- memcpy() function acts on memory rather than value. Whereas, strcpy() function acts on value rather than memory.

8. What is polymorphism?

By using the ability of polymorphism an object can take on multiple types. The frequent use of polymorphism occurs when a parent class refers to an object of the child class. The Java object that can pass more than one IS-A test is polymorphic.

9. What is the fill factor in SQL? What is its default value?

The fill factor is the percentage of space on each leaf-level page that will be filled with data. The smallest unit in SQL Server is a page, which is made up of 8K pages. Depending on the size of the row, each page can store one or more rows. The Fill Factor's default value is 100, which is the same as the value 0. The SQL Server will fill the leaf-level pages of an index with the highest number of rows it can fit if the Fill Factor is set to 100 or 0. When the fill factor is 100, the page will have no or very little vacant space.

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10. What do you understand about Proactive, Retroactive, and Simultaneous Update in the context of DBMS?

- **Proactive Updates:** These changes are made to the database before it is put into use in the real-world environment.
- **Retroactive Updates:** These updates are applied to a database after it has been operational in the real-world environment.
- **Simultaneous Updates:** These updates are applied to the database at the same moment as they become functional in the real-world environment.

11. When does checkpoint occur in DBMS?

A checkpoint is like a snapshot of the DBMS state. Using checkpoints, the DBMS can reduce the amount of work to be done during a restart in the event of subsequent crashes. Checkpoints are used for the recovery of the database after the system crash. Checkpoints are used in the log-based recovery system. When due to a system crash we need to restart the system then at that point we use checkpoints. So that, we don't have to perform the transactions from the very starting.

12. What is Root Partition in OS?

The root partition is the place where the operating system kernel is located. Other potentially crucial system files that are mounted during boot time are contained in it as well.

13. What is the concept of demand paging?

Demand paging specifies that if an area of memory is not currently being used, it is swapped to disk to make room for an application's need.

14. What is Banker's algorithm?

Banker's algorithm is used to avoid deadlock. It is one of the deadlock-avoidance methods. It is named as Banker's algorithm on the banking system where bank never allocates available cash in such a manner that it can no longer satisfy the requirements of all of its customers.

15. What is ARP, how does it work?

ARP stands for Address Resolution Protocol. ARP is used to find the LAN address from the Network address. A node typically has a destination IP to send a packet, the nodes need a link-layer address to send a frame over a local link. The ARP protocol helps here.

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- The node sends a broadcast message to all nodes saying what is the MAC address of this IP address.
- Node with the provided IP address replies with the MAC address.

16. What do you mean by anonymous FTP?

- An anonymous FTP is a way of allowing a user to access data that is public. The user does not need to identify himself to the server and has to log in as anonymous.
- So in case you are asked to use anonymous ftp, make sure you add “anonymous” in place of your user id. Anonymous FTPs are very effective while distributing large files to a lot of people, without having to give huge numbers of usernames and password combinations. Copyright to <https://www.freshersnow.com/>

17. Give a brief description of the TCP/ IP Model.

The TCP/ IP Model is a compressed version of the OSI Model. This Model contains 4 layers unlike the OSI Model which are

- Process(Application Layer)
- Host-to-Host(Transport Layer)
- Internet Layer (Network Layer)
- Network Access(Combination of Physical and Data Link Layer)

18. What is the use of a router and how is it different from a gateway?

The router is a networking device used for connecting two or more network segments. It directs the traffic in the network. It transfers information and data like web pages, emails, images, videos, etc. from source to destination in the form of packets. It operates at the network layer. The gateways are also used to route and regulate the network traffic but, they can also send data between two dissimilar networks while a router can only send data to similar networks.

19. What is the dissimilarity between a stack and the array?

A stack is based on a LIFO pattern. It means that data access follows a sequential process wherein the last data to be entered when the first one is deleted. Arrays do not follow a particular order and instead can access by referring to the indexed element within the array.

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20. Show the time complexity of the linked list during insertion?

The time complexity of insertion/ deletion in a singly linked list depends upon the position where you want to perform them. For example, if you want to insert an element at the end of the linked list, then you have to traverse/ travel the entire list, and hence the complexity will be $O(n)$.

21. How to implement a stack using queue?

A stack can be implemented using two queues. Let stack to be implemented be 's' and queues used to implement be 'q1' and 'q2'. Stack 's' can be implemented in two ways:

- Method 1 (By making push operation costly)
- Method 2 (By making pop operation costly)

22. Can you explain the difference between file structure and storage structure?

- **File Structure:** Representation of data into secondary or auxiliary memory say any device such as hard disk or pen drives that stores data that remains intact until manually deleted is known as a file structure representation.
- **Storage Structure:** In this type, data is stored in the main memory i.e RAM, and is deleted once the function that uses this data gets completely executed. Copyright to <https://www.freshersnow.com/>
- The difference is that the storage structure has data stored in the memory of the computer system, whereas the file structure has the data stored in the auxiliary memory.

23. What is hashmap in data structure?

Hashmap is a data structure that uses the implementation of a hash table data structure which allows access of data in constant time ($O(1)$) complexity if you have the key.

24. What are the disadvantages of the classic life cycle model?

- The working version of the program is not available. So the customer must have patience.
- Real projects rarely follow the sequential flow. Iteration always occurs and creates a problem.
- Challenging for the customer to state all requirements.

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25. What is Software configuration management?

Software configuration management is a process of tracking and controlling changes that happen in the software. Change control is a function that ensures that all changes made into the software system are consistent and created using organizational rules and regulations.

Cognizant HR Interview Questions & Answers

1. Tell us something about yourself

This is the initial question you can expect in an interview. This question is usually asked to start the communication and also to have a basic idea about the candidate. Aspirants can commonly begin with their recent Educational Qualifications, Technologies they have learned, Family background, Projects they have done in their final academic year, Internships they have done, and in what role. Do remember that by answering this question confidently you can make the best impression on the interviewer and also the way you conclude the answer can set the flow of the next few questions.

2. What do you do to improve your knowledge?

Learning never gets stopped after a certain point. To be able to live in this ever-changing world one has to update himself with constant happenings around the world. By asking this question the interviewer will be wanting to know whether you are a continuous learner & challenge yourself for your growth or you are comfortable at where you are. And you can answer this question by stating that you equip yourself with current trends happening in the IT/ Learning About Latest Technologies that are usually followed by competitors, etc., So, make sure you answer this question which will make the employer think that your knowledge can not only help you grow in your career but also useful for the growth of the company.

3. Why should I hire you?

Aspirants need to tell the interviewer how they differ from other contenders. Explain to them about your qualities which will help in creating a positive impact in the workplace. And talk about how you are a continuous learner and working in a new environment will not be an issue for you. Make sure you are matching the job requirements they have specified and how you will feel that you are the best fit they can get to fill that job position based on your strengths.

4. Assume you are hired, then how long would you expect to work for us?

No employer would like a candidate who will be leaving the company after a few years. They always plan for a long period of time. And they expect the candidates to fit in the company at

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least for the next 7-8 years. Even if you are not sure about how many years you will be working for Cognizant you have to assure them that as long as the work you do challenges & helps the company in leading to a profitable business, and in turn helps you to grow in your career that you will be existing in the company.

5. Why do you consider yourself a suitable candidate for this position?

Again, while answering this question remember why you have applied for this certain role. Because you have satisfied the eligibility they have prescribed and have all those qualities they mentioned. Therefore, convey the same to the interviewer. Tell him about how you feel that you are the best fit for the position based upon your educational qualifications, technical knowledge, additional certification courses which you have done. And make a point to convey how you can create value addition to their existing workforce.

6. Will You Work Under a Bond?

This aspect has to be priorly discussed with one's family. Just to get a job don't say yes. You need to be sure on many aspects, like whether you see yourself working for a long while with the company? or Whether you want to study further? all these aspects should be covered while answering this question. If you say yes & sign the bond just to get a job and later break the bond, you will be facing legal issues which won't be pleasant for your growing career.

7. Apart from studies what do like to do in your free time?

For this question, candidates have to speak about the Hobbies/ Extra-Curricular activities they indulge themselves in. Just don't plainly say that you are interested in Reading Books/ Watching TV, Playing Cricket. Because the next question the interviewer will ask is what genre you prefer to read and why and technicalities of cricket. So, make sure you answer this question genuinely and only if you have a habit of doing them when you are in leisure.

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