HCL Recruitment Process - 2024

Interview Process

Hindustan Computers Limited (HCL) is an active recruiter and it conducts the recruitment every year to hire new talented candidates for multiple job roles. The selection process of the company generally comprises these 4 rounds.

- Written/Aptitude Assessment Round
- Group Discussion
- Technical Interview Round
- HR Round

Interview Rounds

- **Written/Aptitude Assessment Round:** In the first round, the questions are around verbal reasoning and quantitative ability. These are in the form of multiple-choice questions, conducted online. This round is usually for freshers, and not for experienced candidates.
- **Group Discussion:** Group Discussion is an important part of the selection process where the recruiters assess whether a candidate has certain personality traits that an organization wishes to see in its employees. In this round, teams are formed and given a common topic of discussion/argument. One could select

whether they wish to talk about points for the topic or against the said topic. It could also be a general discussion about a recent happening. A few traits observed in this round are Team spirit, ability to come up with answers on the spot, how to resolve conflicts, knowledge on recent topics, and so on.

- **Technical Interview Round:** For the technical round, questions can be asked from topics like C, C++, JAVA, UNIX, LINUX, etc. A good practice for being able to crack this round would be to be thorough with your fundamentals. We have listed some questions for the technical round below. The interviewers might also ask questions on your current year projects. For an experienced candidate, most of the questions will be from the resume and also previous work experience.

- **HR Round:** This is the final round of the HCL interview process. In this round, the recruiters ask general questions. Among these, they also evaluate parameters like your interest in joining the organization. They ask questions ranging from your personal goals and ambitions, to why you would like to work in their organization.

HCL Technical Interview Questions: Freshers and Experienced

1. What is the use of the finalize () method in Java?

The finalize () method in java is a special method similar to the main method in java. Before the garbage collector reclaims the object, finalize () method is called as its last chance for any object to perform a clean up activity. This means releasing any fixed order resources held, terminating a connection if open, and so on.

For instance:

protected void finalize **throws** Throwable{}

2. What is the use of polymorphism in Java?

A reason why polymorphism is needed in Java is that the concept is extensively used in implementing inheritance. It plays a crucial role in allowing the object having a different internal structure to share the same external interface.

Example:

```java
class Vehicle{

void run(){System.out.println("running");}

}

class Bike extends Vehicle{

void run(){System.out.println("running safely with 60km");}


public static void main(String args[]){

Vehicle b = new Bike();

b.run();

}

}
```

In the above example, "class Bike extends Vehicle" means that the class Bike is inherited within the class Vehicle. With this, new internal structures can be created within the same external class.

3. What is input-output (I/O) in C++?

In C++, the input stream is used to get inputs from the console i.e. the user. The output stream is used to display the results of the operations to the console, or to the output device. iostream represents the standard input-output stream in C++. It contains different methods like cin, cout etc.
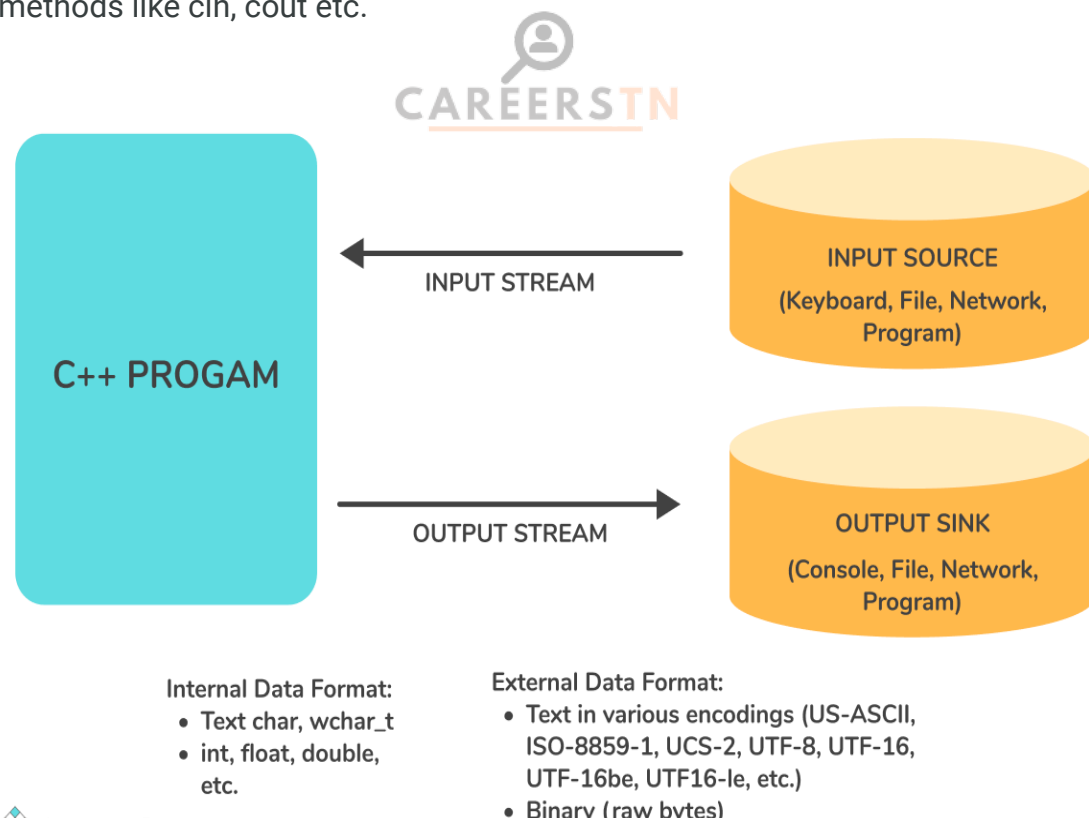
4. What is the difference between a constant variable and a global variable?

Constant variables have a fixed value that cannot be modified throughout the program. **Global variables** can be changed and are accessible by all the functions in a program.

For example:

```c
#include<stdio.h>

int m = 20, n = 40; //global variable

int a = 50, b = 80;//global variable

int main()

{

printf("These are variables are accessed from main function");

a=24;

void sample()

{

int t=20; // Local variable

}

}
```

5. What do you mean by nested classes?

Nested classes mean that we can define a class inside another class in an Object-oriented programming language (OOP). The enclosed class is called a nested class. A nested class has the same access rights as other members of the class and is like another member of the outer class.

For example:

```
class Outer_class{

 //code

 class Inner_class{

  //code

 }

}
```

In the above example, the Inner class is nested within the Outer class. The inner class will have the same access rights as the outer class. Nested classes help to group classes in one group.

6. What are the different cloud computing service models?

The different Cloud computing service models can be categorized as follows:

- **IaaS (Infrastructure as a Service):** It is a computing infrastructure managed over the internet.
- **PaaS (Platform as a Service):** PaaS cloud computing platform is created for programmers to develop, test, run, as well as manage applications.
- **SaaS (Software as a Service):** In this, applications are hosted by a cloud service provider.
- **FaaS (Function as a service):** This provides a platform that allows customers to develop, run, and manage app functionalities without the complexity of building

and maintaining the infrastructure that is associated with the process of launching an app.

7. What is the meaning of the term Big Data?

Big data, as the name suggests, means large volumes of data. The data available to us from multiple online platforms today is complex and huge. For traditional systems to analyze and process, and to interpret something meaningful from the data is quite challenging. Here is where big data comes into the picture. Big data is helpful to solve a large number of business problems right from predictive maintenance, machine learning, customer experience, and so on.

8. Virality
AHA to-go? Does it convey a message that can be pasted into a presentation or instagrammed?

1. Volume
Can you find the information you are looking for?

2. Value
Can you find it when you need it the most?

7. Viscosity
Does it stick with you? Does it call for action?

BIG DATA
with 8 V's

3. Veracity
Are you dealing with information of disinformation?

6. Velocity
Information gains momentum and crises & opportunities evolve in real time. How is outlook for today?

5. Variety
Is a picture worth a thousand words in 70I languages? Is your information balanced?

4. Visualisation
Can you make sense at a glance? Does it trigger a decision?

Following are some of the features of big data:

- Velocity
- Volume
- Value
- Variety.
- Veracity.
- Validity.
- Volatility.
- Visualization.

8. Name some software analysis & design tools?

Some of the most important software analysis and designing tools are:

- Data Flow Diagrams
- Structured Charts
- Structured English
- Data Dictionary
- Hierarchical Input Process Output diagrams
- Entity Relationship Diagrams and Decision tables

9. What is the major difference between structured English and Pseudo Code?

Structured English is used to write the structure of a program module. It is a native English language. It uses the keywords of programming language. On the other hand, Pseudo Code is more like a programming language without the syntax of any specific language.

10. What is the use of the pointer in C?

The following are some of the important uses of pointers in C:

- **To access array elements**: Pointers are used in traversing through an array of integers and strings. The string is an array of characters that is terminated by a null character '\0'.
- **For dynamic memory allocation**: Pointers are used in the allocation and deallocation of memory while the program is being executed.
- **Call by Reference:** The pointers are used to pass the reference of a variable to another function.

- **Data Structures like a graph, tree, linked list, etc.:** The pointers are used to construct a number of data structures like graph, tree, linked list, and so on.

11. What are some of the differences between C & C++?

Following are some of the differences between C & C++:

- C does not support inheritance. Whereas, C++ supports inheritance.
- C focuses on method or process, instead of focusing on data. On the other hand, C++ focuses on data instead of focusing on method or procedure.
- In C, scanf() and printf() functions are used for input / output. In C++, cin and cout are used for input / output.
- Reference variables are not supported by C but are supported by C++.
- Exception handling is not supported by C, whereas   Exception handling is supported by C++.
- C structures don't have access modifiers, while C ++ structures have access modifiers.

12. What are the 4 pillars of Object-oriented programming system (OOPs)?

The 4 pillars of Object-oriented programming systems (OOPs) are as follows:

- **Inheritance**: Using this property, one object can acquire some/all properties of another object.
- **Abstraction**: Abstraction is the process of selecting data from a larger pool to only show the relevant details to the object.
- **Encapsulation**: Encapsulation is accomplished when each object inside a class maintains a private state.
- **Polymorphism:** Polymorphism provides a way to use a class exactly like its parent so there is no confusion with mixing types.
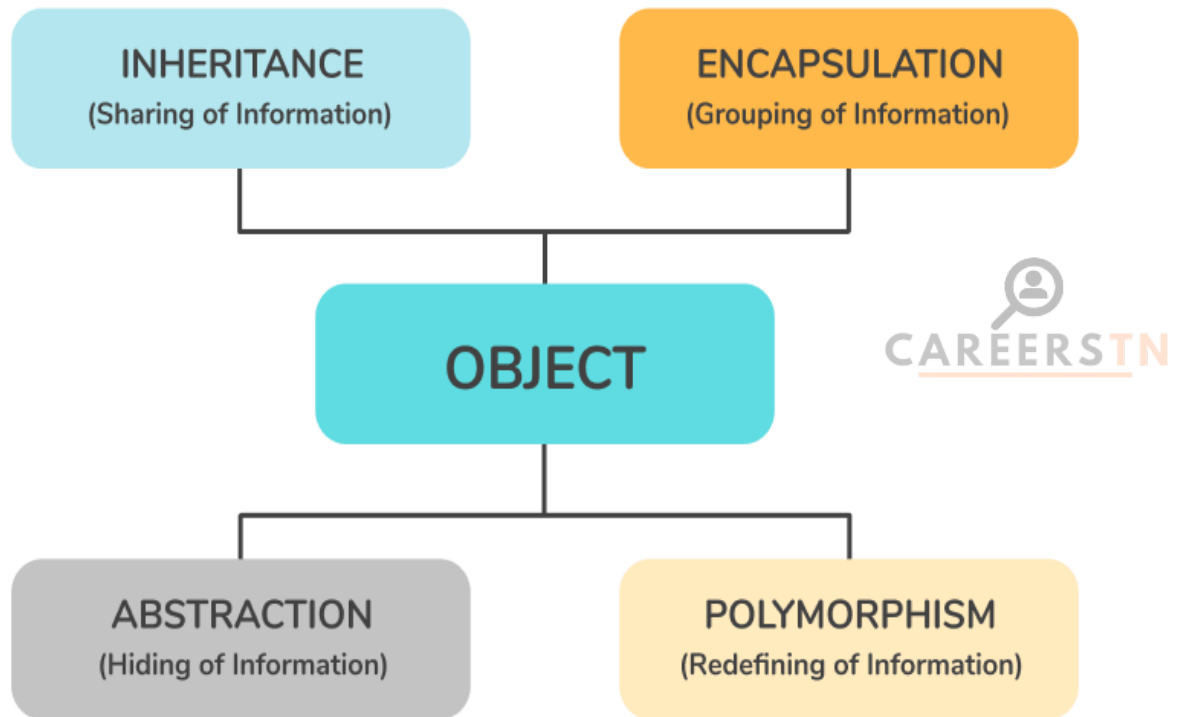
13. What are aggregate functions in SQL?

A function is a unit of code that is used for the purpose of reusability of a part of a program. An SQL aggregate function calculates on a set of values and returns a single value. The function should return a value. Some SQL aggregate functions are as follows:

- **AVG()** - It returns the average of a set.
- **COUNT()** - It returns the number of items in a set.
- **MAX()** - It returns the maximum value in a set.
- **MIN()** - It returns the minimum value in a set.
- **SUM()** - It returns the sum of all or distinct values in a set.

14. What are constraints in SQL?

Constraints in SQL are the limits or rules that we can apply to the different types of data in a given table. Constraints are used to ensure the accuracy and reliability of the data in the table.

The constraints in SQL are as follows:

- **NOT NULL:** This particular constraint informs us that one cannot store a null value within a column.
- **UNIQUE:** When specified with a column, this constraint informs that all the values in a given column must be unique.
- **PRIMARY KEY:** A primary key is a field that can uniquely identify each row in a table. This is typically used to specify a field in a table as the primary key.
- **FOREIGN KEY:** A Foreign key is a field that can uniquely identify each row in another table.
- **CHECK:** This constraint helps us to validate the values of a column to attain a particular condition.
- **DEFAULT:** This constraint gives a default value for the column when the user does not specify a value.

15. What do you mean by DBMS?

The Database management system (DBMS), is software or a tool that helps in managing the data of the entire organization. Large amounts of data can be stored properly and can be presented as information whenever required to take business decisions.

Following are some of the features of a Database management system (DBMS):

- Database Customization.
- Easiness in Data Management.
- Data Availability.
- Minimized Redundancy.
- Data Accuracy, Consistency and Relevance.
- File Consistency.

- Improved Data Security.
- Data Structuring.

Some DBMS examples are MySQL, PostgreSQL, FileMaker, Oracle, Microsoft Access.

16. How do you achieve multiple inheritances in Java?

The only way to implement multiple inheritances is to implement multiple interfaces in a class. In Java, one class can implement two or more interfaces. As all methods declared in interfaces are implemented in the class, this does not cause any ambiguity.

Example:

```java
// Importing input output classes

import java.io.*;



//  Class 1

//First Parent class

class Parent1 {

  // Method inside first parent class

  void fun() {

    // Print statement if this method is called
```

```java
        System.out.println("Parent1");

    }

}

// Class 2

// Second Parent Class

class Parent2 {

    // Method inside first parent class

    void fun() {

        // Print statement if this method is called

        System.out.println("Parent2");

    }

}

// Class 3

// Trying to be child of both the classes

class Test extends Parent1, Parent2 {

    // Main driver method
```

```
public static void main(String args[]) {

    // Creating object of class in main() method

   Test t = new Test();

    // When we try to call above functions of class, error is thrown as this class is
inheriting multiple classes

   t.fun();

 }

 }
```

In the above example, we have defined a method inside both parent classes. When we use "class Test extends Parent1, Parent2", an error is thrown as this class is inheriting multiple classes.

17. What is init in Python?

'init' basically stands for initialization. The role of init is to create processes from the script stored in the file which is a configuration file. This is then to be used by the initialization system. The __init__ method is similar to constructors in C++ and Java.

Example:

```
# init method or constructor

def __init__(self, name):
```

```
self.name = name
```

In the above example, the name passed as an argument will be passed to the __init__ method to initialize the object. The keyword self represents the instance of a class and binds the attributes with the given arguments.

18. What is the role of Domain Name System (DNS)?

The main role of the Domain Name System (DNS) is to translate domain names into IP Addresses. These IP addresses are the ones that computers can understand. It also gives a list of mail servers that accept Emails for each domain name. Every domain name in the DNS will nominate a set of name servers to be authoritative for its DNS records. For example, when a Web address (URL) is typed into a browser, a DNS query is made to learn an IP address of a Web server associated with that name.
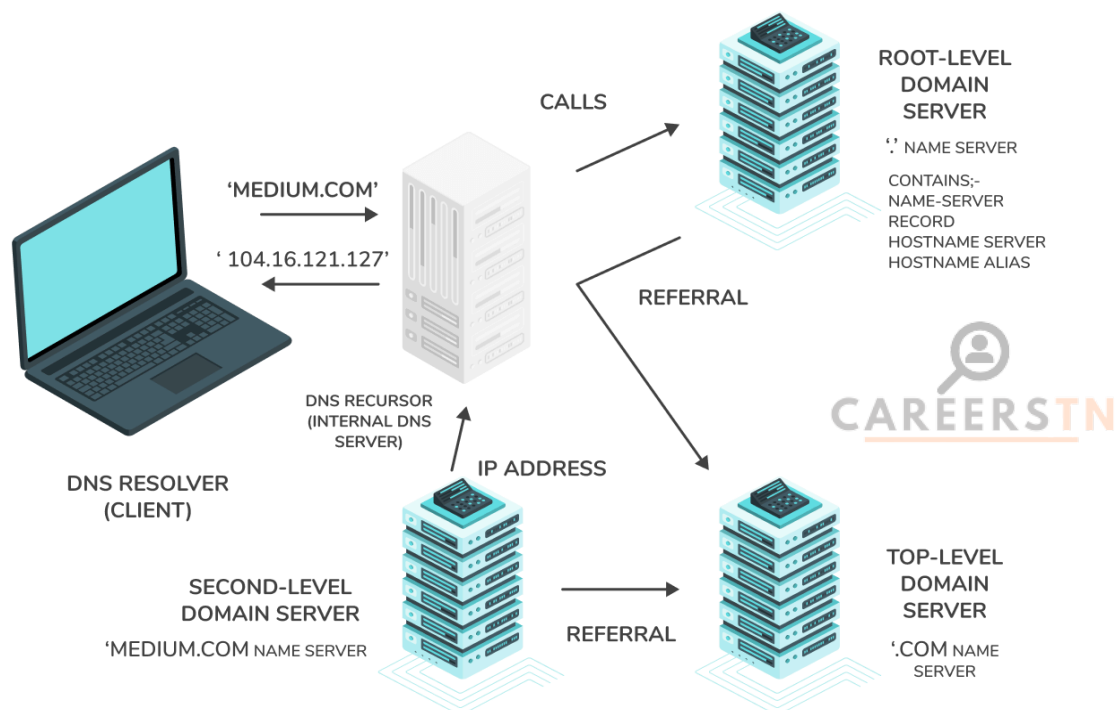
19. What is the difference between C and Java?

Following are some of the differences between C and Java:

- C is more procedure-oriented, whereas Java is more data-oriented.
- C is a middle-level language as the binding of the gaps takes place between machine level language and high-level languages. On the other hand, Java is a high-level language as the translation of code takes place into machine language using either a compiler or an interpreter.
- C usually breaks down to functions, whereas Java breaks down to Objects.
- Memory allocation can be done by malloc in C, and memory allocation can be done by a new keyword in Java.
- C does not support the concept of 'threading'. Java supports the concept of 'threading'.
- C supports pointers, whereas Java does not support pointers.

20. What is the difference between compiler, interpreter, and assembler?

One of the key differences between a compiler, an interpreter, and an assembler is this - The compiler converts the whole high-level language program to machine language at a time. On the other hand, an interpreter converts high-level language programs to machine language line by line. An assembler converts assembly language programs to machine language.

Interpreter, Compiler and Assembler

High Level Language → **Interpreter** → Lower Level Language
Assembly Language
Binary Language

High Level Language → **Compiler** → Lower Level Language

Computer Instruction → **Assembler** → Binary 0's and 1's

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