**Define RDBMS**

The software used to store, manage, query, and retrieve data stored in a relational database is called a relational database management system (RDBMS).

**What is the role undertaken by DBA in databases**

Your responsibility as a database administrator (DBA) will be the performance, integrity and security of a database.

**What is a pointer?**

Pointer is a variable which stores the address of other variables which hold some value in it.

## Dynamic Memory Allocation

Dynamic memory allocation is a process of allocating memory at run time.

### "/0" in a string

This symbol shows the ending of the string.

### What is recursion?

The process by which a method calls itself directly or indirectly, again and again, is called recursion and the corresponding function.

### What is overloading in OOPs?

Overloading is a process used to avoid redundant code where the same method name 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.

### What is overriding?

In any object-oriented programming, Overriding is a process that allows a child class or subclass to provide a specific implementation of functions that is already provided by one of its super-classes or parent classes.

### 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.

### What is data abstraction?

Through the process of abstraction, a programmer hides all but the relevant data about an object to reduce complexity and increase efficiency.

### What is encapsulation?

Encapsulation is one of the primary concepts in object-oriented programming. It describes the idea of combining data in a single class and methods that work on that data

### What is Inheritance in java?

In object-oriented programming, inheritance helps new objects to take on the properties of old objects. A class that uses for inheritance is called a base class or superclass.

### What is the constructor?

A constructor is a method which is used to initialize a newly created object and is called just after when memory allocated to the object. It can be used to implement the objects to desired values or default values at the time of object creation.

### What is the destructor?

A destructor used when the initialized object is destructing it called automatically during the destruction of an object. It helps in recovering the heap space and remove files.

**Can we overload the main method?**

Yes, we can overload the main method in Java, but When we execute the class JVM starts execution with public static void main(String[] args) method.

**A Java Constructor returns a value but, what?**

No, constructor does not return any value.

**Can we create a program without main method?**

Yes, we can execute a java program without a main method by using a static block. Static block in Java is a group of statements that gets executed only once when the class is loaded into the memory by Java ClassLoader, It is also known as a static initialization block

**Why is multiple inheritance not supported in Java**

Consider a case where class B extends class A and Class C and both class A and C have the same method display().

Now java compiler cannot decide, which display method it should inherit.

**Why use Aggregation?**

For Code Reusability.

Can we overload a static method?

**Yes**. We can overload static methods. But remember that the method signature must be different.

**Can we overload the methods if they are only different by static keyword.**

**No.** We cannot override two methods if they differ only by static keyword.

Can we override a static method?

**NO**

* If we call a static method by using the parent class object, the original static method will be called from the parent class.
* If we call a static method by using the child class object, the static method of the child class will be called.

**Blank final**

Blank final variables are used **to create immutable objects** (objects whose members can't be changed once initialized)

## What is marker interface?

An [interface](https://www.javatpoint.com/interface-in-java) that does not contain methods, fields, and constants is known as **marker interface.**

## Runtime Polymorphism in Java

**Runtime polymorphism** or **Dynamic Method Dispatch** is a process in which a call to an overridden method is resolved at runtime rather than compile-time. In this process, an overridden method is called through the reference variable of a superclass.

## Downcasting with java instanceof operator

When Subclass type refers to the object of Parent class, it is known as downcasting. If we perform it directly, compiler gives Compilation error. If you perform it by typecasting, ClassCastException is thrown at runtime. But if we use instanceof operator, downcasting is possible.

Dog d=**new** Animal(); //downcasting //Compiles successfully but ClassCastException is thrown at runtime

Animal a=new Dog(); //upcasting

## Private Constructor

 if a constructor is declared private, we are not able to create an object of the class.

* It does not allow a class to be sub-classed.
* It does not allow to create an object outside the class.
* If a class has a private constructor and when we try to extend the class, a compile-time error occurs.
* We cannot access a private constructor from any other class.
* If all the constant methods are there in our class, we can use a private constructor.
* If all the methods are static then we can use a private constructor.
* We can use a public function to call the private constructor if an object is not initialized.
* We can return only the instance of that object if an object is already initialized.

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|  | **malloc()** | **calloc()** |
| **1.** | It is a function that creates one block of memory of a fixed size. | It is a function that assigns more than one block of memory to a single variable. |
| **2.** | It only takes one argumemt | It takes two arguments. |
| **3.** | It is faster than calloc. | It is slower than malloc() |
| **4.** | It has high time efficiency | It has low time efficiency |
| **5.** | It is used to indicate memory allocation | It is used to indicate contiguous memory allcoation |