**Q. Can we overload the main method?**

Yes (in Java)

**Q. Can we overload the java constructor?**

Yes (in java)

**Q. Can we override the constructor?**

No

**Q. Can we use static class?**

Yes. The advantage of using a static class is that the compiler can check to make sure that no instance members are accidentally added. The compiler will guarantee that instances of this class cannot be created. Static classes are sealed and therefore cannot be inherited. They cannot inherit from any class except Object.

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

No. Java constructor cannot return a value. If required, just create a method which calls the required constructor and returns the required value.

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

Yes you can compile and execute without main method By using static block

**Q. What are the six ways to use this keyword?**

* this can be used to get the current object.
* this can be used to invoke current object's method.
* this() can be used to invoke current class constructor.
* this can be passed as a parameter to a method call.
* this can be passed as a parameter to a constructor.
* this can be used to return the current object from the method

**Q. Why is multiple inheritance not supported in Java?**

**Java supports multiple inheritance** through interfaces only. A class can implement any number of interfaces but can extend only one class. **Multiple inheritances** is **not supported** because it leads to deadly diamond problem.

The problem with multiple inheritance is that two classes may define different ways of doing the same thing, and the subclass can't choose which one to pick.

**Q. Can we override the static method?**

No, you cannot **override static method** in Java

**Q. Why use aggregation?**

When an object A contains a reference to another object B or we can say Object A has a HAS-A relationship with Object B, then it is termed as Aggregation.

Aggregation helps in reusing the code. Object B can have utility methods and which can be utilized by multiple objects. Whichever class has object B then it can utilize its methods.

**Q. What is threat in java?**

**Thread** is a light weight process which helps in running the tasks in parallel. The **threads** works independently and provides the maximum utilization of the CPU

**Q. What is the covariant return type?**

**Covariant return type** refers to **return type** of an overriding method. It allows to narrow down **return type** of an overridden method without any need to cast the **type** or check the **return type**. **Covariant return type** works only for non-primitive **return types**.

**Q. What are the three usages of Java super keyword?**

* **super** variable refers immediate parent class instance.
* **super** variable can invoke immediate parent class method.
* **super**() acts as immediate parent class constructor

**Q. Why use instance initializer block?**

**Instance Initializer block** is **used** to initialize the **instance** data member. It run each time when object of the class is created.

**Q. Can we initialize blank final variable?**

Yes! You **can initialize** a **blank final variable** in constructor or instance **initialization** block.

**Q. What is the usage of a blank final variable?**

A final variable that is not initialized at the time of declaration is known as blank final variable.

**Q. What is a marker or tagged interface?**

A **marker interface** is an **interface** that has no methods or constants inside it. It provides run-time type information about objects, so the compiler and JVM have additional information about the object.

**Q. What is runtime polymorphism or dynamic method dispatch?**

**Dynamic method dispatch** is the mechanism by which a call to an overridden method is resolved at **run time**, rather than compile time.

**Q. What is the difference between static and dynamic binding?**

S.B -> Binding happens during compile time. Ex: method overloading

D.B -> Binding happens during run time. Ex: method overriding

**Q. How downcasting is possible in Java?**

When Subclass type refers to the object of Parent class, it is known as **downcasting**.

**Q. What is the purpose of a private constructor?**

Making something **private** doesn't mean nobody can access it. It just means that nobody outside the class can access it. So **private constructor** is useful too.

**Q. What is object cloning?**

**Object cloning** refers to creation of exact copy of an **object**

**Q. Advantage of OOPs**

* Improved software-development productivity
* Improved software maintainability
* Faster development
* Lower cost of development
* High quality software

**Q. Which oop concept is used as reuse mechanism?**

Inheritance

**Q. Which keyword can be used for overloading?**

Operator keyword is used for overloading

**Q. Can static method use non static members?**

No/ False

**Q. How many instances can be created for an abstract class?**

Zero

**Q. Which Data structure is used to solve BFS?**

Queue

**Q. Which Data structure is used to solve DFS?**

Stack

**Q. Difference between abstract & interface**

**Q. Difference between class & interface**

**Q. Difference between class & object**

**Q. Difference between for loop & while loop**

**Q. Difference between while loop & do while loop**

**Q. Difference between overloading & overriding**

**Q. Difference between final & static keyword**

**Q. Difference between structure programming & object oriented programming**

**Q. Difference between array & listed list**

**Q. Difference between variable & identifier**

**Q. What is minimum spanning tree?**

A minimum spanning tree or minimum weight spanning tree is a subset of the edges of a connected, edge-weighted undirected graph that connects all the vertices together, without any cycles and with the minimum possible total edge weight.

**Q. Why we use structure in c?**

Structure is a user-defined data type in C language which allows us to combine data of different types together. Structure helps to construct a complex data type which is more meaningful. It is somewhat similar to an Array, but an array holds data of similar type only. But structure on the other hand, can store data of any type, which is practical more useful.

**Q.** **What is primitive and non-primitive data type?**

The main difference between **primitive and non**-**primitive data types** are: **Primitive types** are predefined (already defined) in Java. **Non**-**primitive types** are created by the programmer and are not defined by Java (except for String).

* Primitive data types - includes byte, short, int, long, float, double, boolean and char
* Non-primitive data types - such as string, arrays, classes.

**Q. What does it mean by pass by value & pass by reference?**

**Q. What is binary search tree?**

**Q. What is binary tree?**

**Q. OOP theory: polymorphism, inheritance, constructor, abstract, interface, magic methods, access modifier, overloading, overriding, static, final, super (vvi)**

**Q. What is complete binary tree?**

**Q. Is list a data structure?**

**Q. Name five data structure**

**what is structured programming**

**dynamic memory allocation**

**how to write concrete method in interface**

**how to call parent class constructor**

**dynamic method dispatch / runtime polymorphism**

**sql - diff between having & grouping**

**diff between method overloading & overriding**

**diff between void & null**

**shortest path বের করার কয়েকটা algorithm এর নাম**

**pass by value, pass by reference বলতে কি বুঝ?**

**pointer কেনো use করা হয়?**

**একই ক্লাসে override করা যায় কি না?**

**abstract class এর আর কোনো change হবে না যদি চাই তাহলে কি করতে হবে আর syntax কি?**

**sql এর কয়েকটা aggregate functions এর নাম**

**কোনো একটা টেবিলের একটা কলামের সব value 15% increment korar query কি?**

**What is Deep Neural network, Neural Network?**

**Call by value vs call by reference**

**Code of Constructor overloading.**

**Sql - what is Procedure? DDL VS DML Group by vs having. Red Black algorithm.**

**what is Divide vs conquer? Support vector machine.**

**\*\*Important Links For Study:**

<https://www.w3schools.com/>

<https://engineeringinterviewquestions.com/cse-computer-science-engineering-multiple-choice-interview-questions-and-answers/>

ETC……