

Core Java Interview Questions

Other Questions

- What History of java?
- What Difference between java and C++?
- What Difference between JDK , JVM & JRE ?
- What is difference between static & dynamic binding?
- What are escape sequences in Java?
- What is Variables & tell us it's naming roles?
- What is the use of super & this keyword in java?
- What is class & Object in java?
- What is Abstraction in java? Explain with real world example.
- What is Encapsulation in java? Explain with real world example.
- What is Inheritance in java? Explain with real world example.
- What is Polymorphic in java? Explain with real world example.

Topic :- Data Type

- What are the primitive data types in Java?
- Explain the differences between int and Integer.
- What is the default value of the all primitive data type in Java?
- Why use a primitive data type like int instead of an object type like Integer?
- Explain the concept of a "floating-point" data type in Java.
- What is the difference between float and double data types in Java?
- Explain the concept of "type casting" or "type conversion."
- What is "autoboxing" and "unboxing" in Java?
- Explain the concept of "widening"(implicit) and "narrowing"(Explicit) conversions.
- What is the purpose of the String data type in Java?
- What is the default value of the boolean data type in Java?

Topic :- Operators

- What is operators in Java?
- Differentiate between unary, binary, and ternary operators.
- Explain the difference between the == operator and the equals() method for comparing objects.
- Explain the difference between the pre-increment and post-increment operators.
- What is operator precedence in Java?
- What is the difference between the & and && operators?
- What is the use of the instanceof operator in Java?
- What is the difference between == and equals() for comparing strings?

Topic :- Control Statements

- What are control statements in Java?
- Differentiate between conditional and looping control statements.
- Explain the switch statement in Java.
- What is the difference between the while and do-while loops?
- What is an infinite loop, and how can it be created?
- What is the break & continue statement used for?
- What is the purpose of the labeled break and labeled continue statements?

Topic :- Array

- What is an array & its type in Java?
- How to declare each type of array in Java?
- How do you access elements of an array in Java?
- What is the use of length variable in array in Java?
- Can we put array index with negative value?
- When IndexOutOfBoundsException comes?
- What is irregular array in Java?
- What is an anonymous Array in Java?
- How would you iterate through elements of an array using a for loop?
- Explain the concept of a multidimensional array.
- What is the difference between an array and an ArrayList?
- Explain the java.util.Arrays class.
- Explain the concept of an array initializer in Java.

Coding Question of Array :-

- How do you find the maximum and minimum values in an array?
- How do you sort an array in ascending order in Java?
- Find the Missing Number.
- Kth Largest Element in an Array
- Find duplicate element in Array.

Topic :- Command Line Argument

- What is command line argument concept in Java?
- How do you pass command-line arguments to a Java program?
- Explain the main method in Java.
- How can you access command-line arguments inside the main method?
- What is the purpose of the String[] args parameter in the main method?
- Give an example of a Java program that takes two integers as command-line arguments and prints their sum.
- How would you handle the scenario when the required number of command-line arguments is not provided?
- Explain how to convert command-line arguments from strings to other data types.
- What happens if you provide non-integer values as command-line arguments in a program that expects integers?
- Is there a limit to the number of command-line arguments that can be passed to a Java program?

- Can you modify the command-line arguments within the main method?
- How can you provide multiple space-separated words as a single command-line argument?
- Can you use command-line arguments in Java applications that have a graphical user interface (GUI)?

Topic :- Instance & Local variable

- What is an instance variable in Java?
- What is a local variable in Java?
- Difference between instance & local variable.
- What is the scope of an instance variable?
- What is the scope of a local variable?
- Do instance variables have default values in Java? if yes, So what are the default value with each data type.
- Do local variables have default values in Java?
- What is the difference between instance variables and class variables?
- Can instance variables be accessed from static methods?
- Can we create local variables as static?
- Are instance variables thread-safe?
- Are local variables thread-safe?
- When is memory allocated for instance variables and local variables?
- What is the lifetime of instance variables and local variables?

Topic :- String class

- What is a string in Java?
- How can you create an instance of the String class in Java?
- What is the difference between string literals and String objects created using new?
- How do you concatenate strings in Java?
- Why String is immutable in java
- What is String immutability?
- How to create immutable class in java?
- What is difference between immutable & final?
- What are the String class methods name?
- Explain the length() method of the String class.
- What is the charAt() method used for?
- How do you compare strings in Java?
- Explain the substring() method of the String class.
- What is the purpose of the trim() method?
- How can you convert a string to uppercase or lowercase?
- What is the split(), indexOf(), replace() method used for?
- Can strings be modified after they are created?

Topic :- Constructor

- What is a constructor in Java?
- What is the purpose of a constructor?
- What is the naming convention for constructors?
- Can a class have multiple constructors?

- What are the types of constructor in java?
- What is the default constructor?
- What is constructor chaining?
- Can constructors have return types?
- Does constructor return anything?
- Can constructors be inherited in Java?
- What is the role of the this() constructor call?
- What happens if you don't explicitly define any constructors in a class?
- Who is responsible to create a default constructor in java?
- Can you call a constructor directly like a method?
- What is the difference between a constructor and a method?
- Can you make a constructor private? If yes, why would you do that?
- Can constructors be overridden in Java?
- What is the order of execution when creating an object with constructors and instance initialization blocks?
- What is the difference between a default constructor and a parameterized constructor?
- Can you call one constructor from another constructor of the same class?
- Explain the concept of constructor overloading.
- Can we create constructor as final?
- Can we create constructor as static?
- What is the purpose of a no-argument constructor in a class with other constructors?
- How can you prevent a class from being instantiated using constructors?
- Can constructors throw exceptions?
- What happens if you create a constructor that takes no arguments and don't define a default constructor?
- Can constructors be used to initialize static variables?
- What is an instance initialization block, and how does it relate to constructors?
- Can you create an abstract class with constructors?
- What is the role of the super() constructor call?
- Can constructors have access modifiers such as public, private, or protected?
- How is constructor execution ordered when creating a subclass object?
- Can a constructor be abstract?
- Can constructors be marked as synchronized?
- What is the difference between an instance initializer block and a constructor?
- Can constructors throw checked exceptions?
- Is it possible to create a constructor with var args type parameter?

Topic :- Inheritance

- What is inheritance in Java?
- What are the benefits of inheritance?
- How is inheritance represented in Java?
- What is a superclass and a subclass?
- What is method overriding?
- Can a subclass access private members of its superclass?
- Can a subclass access final methods of its superclass?
- How does the Object class relate to inheritance in Java?
- Can a class inherit from multiple classes in Java?
- What is the purpose of the protected access modifier?
- Explain the final class modifier and its implications for inheritance.
- Can constructors be inherited from the superclass in Java?
- What is the purpose of the @Override annotation when overriding methods?
- Can a subclass access the private members of its superclass using inheritance?
- What is the purpose of the Object class's clone() method?

Topic :- Exception Handling

- What is an exception in Java?
- What is exception handling?
- What are the types of exception in java?
- What is the purpose of exception handling in Java?
- How is exception handling done in Java?
- When exception is generated compile time or runtime?
- Explain the try-catch block.
- What is finally block & it's use in java?
- Can you have multiple catch blocks in a single try statement?
- Can you have a finally block without a catch block?
- Can you have a try block without any catch & finally block?
- What is the purpose of the throw statement?
- What is the purpose of the throws statement?
- What are the differences between checked and unchecked exceptions?
- Can you catch multiple exceptions in a single catch block?
- Can you throw an exception from a finally block?
- What is the role of the try-with-resources statement?
- What happens if an exception is thrown within a catch block?
- What will happen if we use return statement in try block & we have also finally block?
- What is the difference between System.out.println() and System.err.println()?
- Explain the concept of try-with-resources and why it's beneficial.
- Can you throw an exception without using the throw statement?
- What is the difference between the printStackTrace() and getMessage() methods of the Throwable class?
- What is the difference between throw & throws keyword?
- Can you catch an exception of a superclass type before catching a subclass type?
- If super class is not throws any exception. So can sub class throws any exception?
- Is it mandatory to catch or declare checked exceptions in Java?
- What is the purpose of the getMessage() method in exceptions?
- Can we have nested try-catch blocks?
- What is the difference between the catch block and the finally block in exception handling?
- Can you throw multiple exceptions in a single throw statement?
- Can you rethrow an exception caught in a catch block?
- What happens if an exception is thrown in a finally block?
- What is the purpose of creating custom exception classes?
- Explain the concept of exception chaining.
- Explain the concept of stack trace in the context of exceptions.
- What is the exception propagation?
- Can you catch an Error in a try-catch block?
- What is the purpose of the RuntimeException class?
- By how many way we can print an exception?
- What is fully checked Exception?
- What is partially checked exception?

Topic :- static keyword

- What is static keyword in Java?
- What is the use of static keyword in java?
- What things can we static?
- What is a static variable in Java?

- How is a static variable different from an instance variable?
- Can a static variable be accessed without creating an object of the class?
- What is a static method in Java?
- Can you override a static method in a subclass?
- What is the purpose of a static block?
- What is the use of static variable in java?
- What is the difference between a static block and instance block & a constructor?
- Can you use the this & super keyword in a static method?
- What is the difference between a static import and a regular import statement?
- Can a static method access instance variables?
- Can a static method call a non-static method?
- What are the restrictions on using static methods?
- Can a class be both final and static?
- Can outer class be static?
- What is the role of the ClassLoader in loading static members?
- Can you use the static keyword with local variables or parameters?
- Explain the Singleton design pattern and how the static keyword is used in its implementation.
- What is a static initializer or static block?
- What is the difference between a static variable and a constant (i.e., final static variable)?
- Where static things are gets saved in java?
- What is the significance of the main method being declared as static?
- Can you declare a static constructor in Java?
- What is the difference between a static variable and a static method?
- Can you access non-static members in a static method using an instance of the class?
- What is the significance of the static keyword in the context of memory efficiency?
- Tell me condition where you will use static in java?
- Can we have more than one static & instance block in java?
- Does JVM calls main method by creating instance of class?
- Explain System.out.println()
- Can we create static object in java?

Topic :- Polymorphism

- What is polymorphism in Java?
- Explain the two types of polymorphism in Java.
- How is method overloading achieved in Java?
- What is method overriding in Java?
- What is dynamic method dispatch?
- Can constructors be overridden in Java?
- What is the difference between compile-time polymorphism and runtime polymorphism?
- Can you use method overloading and method overriding together in the same class hierarchy?
- What is the significance of the super keyword in method overriding?
- Can you override a private or final method in Java?
- How does polymorphism contribute to code reusability and extensibility?
- What is an abstract class, and how does it relate to polymorphism?
- What is the difference between method overloading and method overriding?
- Can we override final, private & static method in java?
- What is covariant return type in Java?
- What is method hiding?
- Difference between method hiding & method overriding?
- Can we have different return type in method overriding?
- Can we have different return type in method overloading?
- Can you achieve runtime polymorphism with variables and fields?
- How does polymorphism contribute to the concept of loose coupling in software design?

Topic :- Varargs

- What are varargs in Java?
- How are varargs implemented in Java methods?
- Can a method have multiple parameters along with a varargs parameter?
- What happens if you pass no arguments to a varargs method?
- Can a method have multiple varargs parameters?
- How can you call a method with varargs?
- What is the data type of the parameter used for varargs?
- Can you pass an array to a varargs parameter?
- Can you define a method with both an array parameter and a varargs parameter with the same data type?
- Can you pass arguments of different data types to a varargs method?
- Can you make a method with varargs final or abstract?
- Can we override varargs parameter in java?

Topic :- final keyword

- What is the final keyword in Java?
- How is the final keyword used with variables?
- Can a final variable be modified after its initial assignment?
- Can a final method be overloaded in a subclass?
- Can an abstract class be marked as final?
- Can a final class have final methods?
- Can constructor parameters be marked as final?
- Can an interface have final methods?
- What is the purpose of the final keyword in the context of security?
- Can you declare a final constructor in Java?
- Is it necessary to initialize a final variable at the time of declaration?
- What is blank final variable?
- How do you initialize blank final variable?
- Can we assign value with the help of constructor & instance block simultaneously?
- Can a class have both final methods and abstract methods?
- Is it possible to mark an interface as final?
- Can a final method be synchronized?
- Can a final class have non-final methods?

Topic :-Package

- What is a package in Java?
- Why are packages used in Java?
- What is the default package in Java?
- What are the access modifier & how it used in package & scopes?
- What access modifier will be consider by the JVM. If there is no access modifier?
- How are classes organized within packages?
- What is the naming convention for packages in Java?
- How do you declare a class to be part of a specific package?
- Can you use classes from the same package without an import statement?
- What is the purpose of the import statement in Java?

- Can you use classes from the default package in other packages?
- Can you have duplicate package names in different parts of the classpath?
- How can you create a sub-package within an existing package?
- Can you have private and protected top-level classes in a package?

Topic :- Abstraction

- What is abstraction?
- What is an abstract class in Java?
- What is the purpose of an abstract class?
- Can you create an instance of an abstract class?
- Can an abstract class have non-abstract methods?
- Can an abstract class have instance variables?
- Can you define a constructor in an abstract class?
- What is an abstract method in Java?
- Can an abstract class have no abstract methods?
- Can an abstract class implement an interface?
- Can a class be both abstract and final?
- Can a class be both abstract and static?
- Can an abstract class extend another class in Java?
- Why would you use an abstract class instead of an interface?
- Can an abstract method be private or final?
- Can you create an abstract class without any methods?
- Can an abstract class have a static method?
- Can an abstract class be marked as public and have a protected constructor?
- What is the difference between an abstract class and an interface?
- Why can't you create an instance of an abstract class?
- Can an abstract class extend multiple abstract classes?
- Can we create main method class as abstract?

Topic :- interface

- What is an interface in Java?
- Can you create an instance of an interface in Java?
- What is the purpose of using interfaces in Java?
- Can we create an instance of interface?
- Does .class file generate for interface?
- Can a class implement multiple interfaces in Java?
- Can an interface extend another interface?
- Can an interface extend multiple interfaces?
- Can an interface have instance variables?
- Can an interface have constructors in Java?
- Can an interface have a static method in Java?
- Can an interface have a default method in Java?
- Can an interface have a private method in Java?
- Can an interface have protected access modifier for its methods?
- Can an interface extend a class?
- Can an interface have a non-public method?
- What is the purpose of the @FunctionalInterface annotation?
- Can an interface extend an abstract class?
- Can an interface have a static variable in Java?

- Can an interface extend a final class?
- Can an interface extend a default method from another interface?
- What is the purpose of the super keyword when implementing an interface with a default method?
- Can an interface extend a class and another interface at the same time?
- Can a class implement multiple interfaces that have methods with the same name?
- Can a private method in an interface be overridden in an implementing class?
- What is marker interface?
- What is the purpose of the marker interface pattern in Java?
- What is serializable interface?
- What is functional interface?
- Can a protected method in an interface be accessed in implementing classes?
- Can an interface have a method with a final keyword?

Topic :- I/O

- What is I/O in Java?
- What are the primary streams used for I/O in Java?
- What is the difference between byte streams and character streams?
- What is the purpose of the java.io package in Java?
- What is the difference between file I/O and stream I/O?
- What is a file in Java I/O?
- How do you read from a text file in Java?
- How do you write to a text file in Java?
- What is the purpose of byte streams like InputStream and OutputStream?
- How can you read binary data from a file using byte streams?
- How can you write binary data to a file using byte streams?
- What is the purpose of the DataInputStream and DataOutputStream classes?
- What is the purpose of the ObjectInputStream and ObjectOutputStream classes?
- What is the difference between Reader and InputStreamReader in Java I/O?
- What is the purpose of the Scanner class in Java?