

Mostly Asked CORE JAVA
& Tricky

INTERVIEW
Questions

Mostly Asked CORE JAVA Interview – Questions

1) What is the difference between JDK, JRE, and JVM?

- JDK (Java Development Kit) is a software development kit that includes tools for developing and compiling Java applications.
- JRE (Java Runtime Environment) provides the necessary runtime environment to execute Java applications.
- JVM (Java Virtual Machine) is a virtual machine responsible for running Java bytecode on a specific platform.

2) How many types of memory areas are allocated by JVM?

- 1.Class Area:** Stores per-class structures like the runtime constant pool, field, method data, and code for methods.
- 2.Heap:** Runtime data area where memory is allocated to objects.
- 3.Stack:** Holds local variables and partial results, crucial for method invocation and return. Each thread has a private JVM stack, with frames created for method invocations and destroyed upon completion.
- 4.Program Counter Register:** Contains the address of the currently executing Java virtual machine instruction.
- 5.Native Method Stack:** Holds all native methods used in the application.

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3) Is Java 100% Object Oriented programming , if no then why ?

No, Java is not 100% object-oriented because it has primitive data types, static members, and supports procedural programming.

int float class

1.Primitive Data Types: Java includes primitive data types (such as int, double, boolean) that are not objects. These types are not part of any class hierarchy and are not treated as objects like other user-defined classes.

2.Static Members: Java allows the use of static variables and methods, which are associated with the class rather than individual objects. Static members are not tied to specific instances of the class and, therefore, do not fully adhere to the principles of OOP.

3.Procedural Programming: Java supports procedural programming as well. While Java encourages the use of classes and objects, it also allows developers to write procedural-style code using static methods and procedural constructs.

4.Primitive Wrapper Classes: Java provides wrapper classes (e.g., Integer, Double) to represent primitive data types as objects. These wrapper classes are used to convert primitive types to objects and vice versa, blurring the line between object-oriented and non-object-oriented programming.

5.String: In Java, strings are objects of the String class, but they have some special treatment due to their frequent usage and importance in programming.

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4) Why is the main method static?

Because the object is not required to call the static method. If we make the main method non-static, JVM will have to create its object first and then call main() method which will lead to the extra memory allocation.

5) Can we execute a program without main() method?

Ans) Yes, It was possible before JDK 1.7 using the static block. Since JDK 1.7, it is not possible.

6) How is exception handling implemented in Java?

- Java uses **try-catch blocks** to handle exceptions.
- Code that may throw an exception is enclosed within the "try" block, and corresponding exception handling is performed in the "catch" block.
- Additionally, **"finally"** blocks can be used to ensure certain code is executed regardless of whether an exception occurs or not.

7) Can you catch multiple exceptions in a single catch block in Java?

Yes, starting from Java 7, you can catch multiple exceptions in a single catch block using a multi-catch syntax.

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8) What are the main principles of object-oriented programming?

- Encapsulation, Inheritance, Polymorphism, and Abstraction (EIPA).

(pillar)

9) What is the difference between abstract classes and interfaces?

- Abstract classes can have both abstract and concrete methods, while interfaces can only have abstract methods (Java 8 onwards can have default and static methods in interfaces).
- A class can extend only one abstract class but can implement multiple interfaces.

10) What is the use of the "static" keyword in Java?

The "static" keyword is used to define class-level members (variables and methods) that belong to the class itself rather than to instances of the class.

↳ object / Ref.

Q. - Can we make constructor as static?

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11) What is the purpose of the "final" keyword in Java? What

- The "final" keyword is used to make a variable constant, a method unchangeable (cannot be overridden), or a class not extensible (cannot be subclassed).

12) What is the difference between ~~String~~, StringBuilder, and StringBuffer?

- **String**: Immutable (cannot be changed after creation).
- **StringBuilder**: Mutable (can be modified without creating a new object). Not thread-safe.
- **StringBuffer**: Similar to StringBuilder but thread-safe.

13) How does Java handle multiple exceptions in a try-catch block?

- Multiple catch blocks can be used to handle different types of exceptions separately.

14) What is the difference between == and .equals() method in Java?

Answer: == is used for reference comparison (checking if two objects point to the same memory location), while .equals() is used for content comparison (checking if two objects have the same content or values).

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Interview – Questions

15) What are the access modifiers in Java, and what do they signify?

- Access modifiers control the visibility of classes, variables, and methods in Java.
- **"public"**: Accessible from any class.
- **"protected"**: Accessible within the package and subclasses.
- **"default"** (no modifier): Accessible within the package.
- **"private"**: Accessible only within the class.

16) Explain the concept of method overloading.

- Method overloading allows multiple methods with the same name but different parameter lists (number or types of parameters) within the same class.

17) What is the Java Collection Framework?

- The Java Collection Framework is a set of interfaces, classes, and algorithms that provide various data structures like lists, sets, queues, and maps to store, manage, and manipulate collections of objects.

Mostly Asked CORE JAVA Interview – Questions

MyClass.java

M.W
16) What is class loader? *✓*

17) Is Empty .java file name a valid source file name? *✗*

18) What if I write static public void instead of public static void?

19) What are the advantages of Packages in Java?

20) How many types of constructors are used in Java?

21) What are the differences between the constructors and methods?

22) Can we make constructors static? *✗*

23) Can this keyword be used to refer static members?

✗ 24) What is object cloning?

25) Why is method overloading not possible by changing the return type in java?

26) Why String is immutable in java? *✓*

27) Can you override a private or static method in java why?

28) Explain the concept of garbage collection in Java.

29) What is the diamond problem in the context of multiple inheritance, and how does Java handle it?

30) Can you create a custom exception class in Java, and when would you use it?