What is the difference between path and classpath?

What is the difference between local and instance variables?

What are static variables?

What is the difference between String, StringBuilder, and StringBuffer?

Why is String immutable in Java?

What is the String pool?

What are wrapper classes?

What is the difference between primitive and reference types?

What is the difference between stack and heap memory?

What is the difference between shallow copy and deep copy?

What is the difference between System.out.println() and System.err.println()?

What is the difference between import and static import in Java?

What is the difference between instanceof and isInstance()?

What is composition?

What is aggregation?

What is the difference between association, aggregation, and composition?

What is the singleton pattern?

What is the factory pattern?

What is dependency injection?

What is the difference between strategy and factory pattern?

What is the observer pattern?

What is the decorator pattern?

What is the difference between tight coupling and loose coupling?

What is the difference between a concrete class and an abstract class?

What is the difference between a static method and an instance method?

What are primitive data types in Java?

What is type casting?

What is autoboxing and unboxing?

What is the difference between int and Integer?

What is the difference between float and double?

What is the difference between char and Character?

What is the try-with-resources statement?

Explain the hierarchy of Exception classes.

What is the finally block?

Can we have try without catch?

What is exception propagation?

What is the purpose of the assert keyword?

What is the difference between throw and throws?

What is the Collections Framework?

What is the difference between List and Set?

What is the difference between ArrayList and LinkedList?

What is the difference between HashSet and TreeSet?

How does HashMap work internally?

What is the difference between HashMap and Hashtable?

What is the difference between HashMap and ConcurrentHashMap?

What is the load factor in HashMap?

What is the difference between fail-fast and fail-safe iterators?

How to make a collection read-only?

What is the difference between shallow copy and deep copy?

What is the difference between Iterator and ListIterator?

What is the difference between Comparable and Comparator?

What is the difference between Vector and ArrayList?

What are different ways to create threads?

What is synchronization?

What is the difference between synchronized method and synchronized block?

What is the volatile keyword?

What is thread pool?

What is the difference between yield() and join()?

What is the difference between Callable and Runnable?

**Java 8 Features**

What are lambda expressions?

What are functional interfaces?

What is Stream API?

What is the difference between intermediate and terminal operations in streams?

What is Optional class?

What are default methods?

What is method reference?

What is the difference between Comparator and Comparable?

What are the new features in Java 8 Date/Time API?

What is forEach() method in Iterable interface?

What is the difference between Predicate and Function?

What is the difference between map() and flatMap() in Stream API?

What is the purpose of Collectors in Java 8?

Memory Management

How is memory managed in Java?

What is garbage collection?

What are different types of references in Java?

What is memory leak?

What is the difference between stack and heap memory?

What is the OutOfMemoryError?

What are different types of garbage collectors?

What is the finalize() method?

What is the difference between final, finally, and finalize?

How to force garbage collection?

What is the difference between SoftReference and WeakReference?

What is the difference between Minor GC and Major GC?

What is the purpose of the System.gc() method?

File Handling and I/O

What is the difference between FileInputStream and FileReader?

What is serialization?

What is the transient keyword?

What is externalization?

What is the difference between Reader/Writer and InputStream/OutputStream?

What is BufferedReader?

What is the difference between getPath() and getAbsolutePath()?

What is NIO?

What are channels and buffers?

What is memory-mapped file I/O?

What is the difference between FileInputStream and BufferedInputStream?

What is the purpose of the RandomAccessFile class?

What is the difference between File and Path in Java NIO?

Advanced Concepts

What are annotations?

What is marker interface?

What is the singleton pattern?

What is the factory pattern?

What is dependency injection?

What is the difference between ClassNotFoundException and NoClassDefFoundError?

What is the difference between ClassLoader and Class?

What is the purpose of the Proxy class in Java?

**Java EE Basics**

What is JDBC?

What is the difference between Statement and PreparedStatement?

What is connection pooling?

What is a servlet?

What is JSP?

What is the difference between forward and redirect?

What is the MVC pattern?

What are Java Beans?

What is the difference between GET and POST methods?

What are cookies and sessions?

What is the difference between HttpServlet and GenericServlet?

What is the purpose of the Filter in Java EE?

What is the difference between JSP and JSF?

Best Practices and Design

What are SOLID principles?

What is clean code?

What is the difference between shallow copy and deep copy?

What is immutable class?

How to create an immutable class?

What is the difference between strategy and factory pattern?

What is the observer pattern?

What is the decorator pattern?

What are design patterns?

What is the difference between composition and inheritance?

What is the difference between Builder and Factory pattern?

What is the purpose of the Adapter pattern?

What is the difference between Facade and Proxy pattern?