

- What is the difference between String, StringBuilder, and StringBuffer?
- How does the Java Virtual Machine (JVM) work?
- What is a marker interface in Java?
- How does the Comparable interface work in Java?
- What is the difference between Comparator and Comparable in Java?
- What is autoboxing and unboxing in Java?
- What are the different ways to create a thread in Java?
- What is the difference between wait(), notify(), and notifyAll()?
- How does HashMap work internally in Java?
- What is the difference between HashMap, TreeMap, and LinkedHashMap?
- What is a ConcurrentHashMap in Java?
- How do you implement a singleton design pattern in Java?
- What is the Factory Design Pattern in Java?
- What is the Observer design pattern in Java?
- What are generics in Java?
- What is type erasure in Java generics?
- How do you implement dependency injection in Java?
- What is a lambda expression in Java?
- What are functional interfaces in Java?
- What is the Stream API in Java?
- How do you filter elements from a list using Java Streams?
- What is the difference between map() and flatMap() in Java Streams?
- How does parallel stream differ from a normal stream in Java?
- What is the Optional class in Java?

- What is a soft reference and weak reference in Java?
- What are the different types of thread pools in Java?
- What is an ExecutorService in Java?
- What is a Fork/Join framework in Java?
- What is the difference between synchronized and concurrent collections in Java?
- What is a deadlock in Java and how do you prevent it?
- What is a race condition in Java and how do you handle it?
- What are volatile variables in Java?
- What is the AtomicInteger class in Java?
- How does ReentrantLock work in Java?
- What are the different states of a thread in Java?
- What is a daemon thread in Java?
- What is the difference between yield(), sleep(), and join() methods?
- How does a semaphore work in Java?
- What is the purpose of the CountdownLatch class?
- What is the difference between CyclicBarrier and CountdownLatch?
- How does Java handle method references?
- What is the difference between deep copy and shallow copy in Java?
- What is the difference between serialization and deserialization in Java?
- How does Java handle memory leaks?
- What are Phantom References in Java?
- What is the difference between throw and throws in Java?
- What is method hiding in Java?

- What is a Predicate in Java?
- What is the difference between Callable and Runnable?
- How do you write a custom exception in Java?