# FAQ Core Java ,Java8 UniTesting, Sql Interview Questions

# Core Java

1. What is multithreading
2. How did you use MultiThreading in your project
3. What Is the Java Locks (Lock Interface)
4. What are the states of multithreading
5. What are the concurrent Objects you have used
6. Whats the difference between hashMap and concurrent HashMap
7. What is the difference between String and StringBuffer
8. map vs list vs set
9. == vs equals method
10. run time exception vs checked exception
11. sql date vs util date
12. overloading vs overriding
13. prepared statement
14. callables vs Runnable statement
15. sql injection
16. Hashmap vs Hashtable
17. How do you create Enum without any instance? Is it possible without compile time error?
18. List Arraylist vector
19. Hashmap and hashset
20. Treemap
21. ConcurrentHashmap
22. Can we override toString() method for Enum? What happens if we don't?
23. Lock
24. Optimistic Lock ( CAS algorithm)
25. Exceptions
26. Which version of java worked on ?
27. What are different collection Object that you used in your project?
28. What is advantage of HashMap?
29. Can we create instance of Enum outside of Enum itself? If Not, Why?
30. If I m trying to insert same key in HashMap will it give error or worked fine?
31. If I have a class A with an object a and a class B with an object b how can you compare them?
32. What is a reflection in java?
33. Give me idea about HashMap, how it work internally?
34. If I put same key how it identify same key available in HashMap?
35. Can I add multiple null value in HashMap?
36. Do you know inner class in Java? Why we use it?
37. Explain me types of inner class with demonstration ?
38. What is enum?
39. How to debug code in existing code, example infinite loop to identify?
40. Tell me something about date/time Api?
41. Can Enum implement an interface in Java?if No Why & if Yes How?
42. Can Enum extends class in Java?if No Why & if Yes How?
43. what’s final, finally, finalize
44. how do you stop a thread
45. how to create a thread
46. Asynchronized vs Synchronize
47. how to implement Synchronize
48. instance variable
49. difference between ArrayList and vector
50. How to create singleton class in Java?
51. Can we create 2 public in one notepad in Java?
52. Can we declare Constructor inside Enum in Java?
53. What does ordinal() method do in Enum?
54. What is immutable.
55. Why string is immutable
56. Whats the difference between StringBuffer and String Builder.
57. Explain encapsulation
58. Some questions about interface ,abstract class,multithreading
59. In how many ways you could create a thread.
60. Can a thread restarted.
61. Create a hashmap ,insert values and sort.
62. Can we use Enum with TreeSet or TreeMap in Java?
63. What is difference between ordinal() and compareTo() in Enum?
64. Overloading vs overriding?
65. Abstract vs interface
66. Write a Singleton Java Class
67. Where we use singleton design pattern in project?Implements hashmap<id, age>
68. Convert hashmap into set
69. Core Java- MultiThreading, did you use it in your project?
70. Thread, Diamond problem. What is better to use. extending thread or runnable interface.
71. What is polymorphism?
72. How did you implement multithreading/concurrency? (Lots of questions on multithreading)
73. What is Future object?
74. What is asynchronous?
75. How do you synchronize threads in Executor service?
76. Difference between Runnable and Callable?
77. What are thread lifecycles?
78. What are ways to implement Thread?
79. What is deadlock?
80. Moved on to multithreading. Simple questions on thread creation, scheduling. Wanted to know the actual process and not theoretically. Focus on lifecyle of a thread including simple methods like wait, notify and sleep?
81. Difference between final, finally and finalize. Follow up question on why finalize is used when there is auto GC in Java?
82. What is a hashmap? Difference between HashMap and HashTree?
83. What is concurrent modification error and how to solve/avoid it?
84. Difference between lazy and eager singleton?
85. Difference between String. equals and “==”?
86. Difference between comparable, comapareTo, and comparator?
87. What is deadlock?
88. How do you solve deadlock?
89. Given a class A with a method x and a class B with a method y, how do you implement both in a class C
90. How do you use try catch?
91. What is the purpose of Finally block?
92. If I have a return statement in try, a return statement in catch and a return statement in finally block; what is happen?
93. polymorphism
94. map vs list
95. life cycle of a thread
96. What is the difference between Array and ArrayList?
97. How do you create an immutable class in java?
98. What is the difference between abstract and interface?
99. What is contract rule between hashCode & equals method in Java?
100. Can you update String Object?
101. Can you tell me == operator to compare String Object?
102. What is equals() method to compare object in String?
103. How can design application if you have monitor two different resource in after every 30 secs.
104. Different between read lock &write lock?
105. What is executor services?
106. Difference between HashMap vs concurrent HashMap?
107. Diff between Runnable vs Callable?
108. Diff between Exception & Error?
109. Constructor in Java?
110. What is Covariant return type?
111. Boxing & autounBoxing in Java?what is hashcode in java and how to use it?
112. Class vs Object
113. How to implement Multiple Inheritance ?
114. Use of static keyword & who all supports.
115. Abstract class
116. Interface class has any implementation
117. Dynamic keyword – I couldn’t answer this Polymorphism
118. How to add different data types in an array?
119. Thread and Concurrent problems
120. What is thread what is the benefit of multi thread
121. What is synchronized
122. Join yield
123. Optimistic and Pessimistic .lock as well as concurrent hashed map
124. Why concurrent hashed map is preferred  
     what is read lock briefly tell me about the lock interface
125. Lock and monitor
126. Executor? How it works what type of executor that u have used ? Why
127. Threadpool
128. CountDownLatch Explain heap & stack memory?
129. Explain the Exception?
130. Type of Autoboxing?
131. What type of object added in Collection? like Primitive or wrapper type?
132. What is Covariant type ?
133. Diff between HashMap vs Concurrent HashMap?
134. What is Lock ? what type of lock ?can we stop the lock?
135. Can you explain recurrent lock ,writelock & read lock.
136. What is team size in your all project?
137. Can we modified String?
138. Why String is immutable ? explain String Constant Pool?
139. Have you written your own Singleton Class ?
140. Can we singleton as immutable object?
141. What is Runnable & callable ?
142. What is executor services ?
143. Polymorphism
144. Abstact class and interface
145. String String buffer String builder( need to tell thread safe or not)
146. Heap and stack memory
147. Linkedlist and arraylist
148. Hashmap TreeMap Linkedhash map
149. Vector
150. Blockingqueue
151. Wait notify()
152. Threadpooling
153. Heap dump
154. Deadlock
155. Memory leak testing
156. How to check if the thread does not end properly
157. What is read & write Object in Java Io Package?
158. What is transient modifier in Java?
159. What is class Level & Object Level synchronization?
160. Difference between Vector and ArrayList?
161. Difference between Iterator and ListIterator?
162. Why Map interface does not extend Collection interface?
163. Can a null element added to a TreeSet or HashSet?
164. What are IdentityHashMap and WeakHashMap?
165. How to make a collection read only?
166. How to make a collection thread safe?
167. What is difference between fail-fast and fail-safe?
168. What is Comparable and Comparator interface?
169. What are Collections and Arrays class?
170. What is readObject and writeObject?
171. ow you will serialize and deserialize a class?
172. How you will make changes to a class so that serialization should not break?
173. Can we serialize static fields?
174. How to Make a Java class immutable?
175. What is garbage collection? Can we enforce it?
176. What is native keyword?
177. What is serialization? Explain the catches?
178. How to create a immutable object in Java? Count all benefits?
179. Is Java Pass by Reference or Pass by Value?
180. What is the use of the finally block? Is finally block in Java guaranteed to be called? When finally block is NOT called?
181. What is concurrentmodificationexception how can avoid it ?
182. How to reverse the list?
183. Explain ConcurrentHashMap? How it works?
184. Why wait(), notify() and notifyAll() are defined in Object class?
185. Can I declare class as static or private?
186. Dead code and unreachable code in java

# Java 8

1. Tell me what Java 8 features you have used?
2. Do you know flatMap in Stream API?
3. What is .map() function do with Stream API?
4. Lamda Expression
5. What is Stream API
6. What problem solved by default method by JAVA8?
7. What is functional interface in Java8? Explain the codes?
8. Java 8-
9. Method Reference,
10. Default method,
11. Functional interface,
12. lambda expression and parallel stream.
13. hat is Stream API ,where you have used in your project ?
14. What is parallel Stream ,what is used?
15. What is Lambda function? How did you implement?  
    What is Method reference?
16. Do you know changes in Java8 could you refer some of them?
17. Explain the default Method? Why default added in Java8?
18. What is Optional API ? why Optional use it ?
19. Do Optional has public constructor?
20. Can we add method as return Optional type?
21. How will you sort a list of string using Java 8 lambda expression?
    * 1. Following code sorts a list of string using Java 8 lambda expression:
      2. //sort using java 8
      3. private void sortUsingJava8(List<String> names) {
      4. Collections.sort(names, (s1, s2) -> s1.compareTo(s2));
      5. }
22. What are the characteristics of a Java 8 lambda expression?
    1. A lambda expression is characterized by the following syntax -
    2. parameter −> expression body
    3. Following are the important characteristics of a lambda expression −
    4. Optional type declaration − No need to declare the type of a parameter. The compiler can inference the same from the value of the parameter.
    5. Optional parenthesis around parameter − No need to declare a single parameter in parenthesis. For multiple parameters, parentheses are required.
    6. Optional curly braces − No need to use curly braces in expression body if the body contains a single statement.
    7. Optional return keyword − The compiler automatically returns the value if the body has a single expression to return the value. Curly braces are required to indicate that expression returns a value.
23. What are method references?
    1. Method references help to point to methods by their names. A method reference is described using :: (double colon) symbol. A method reference can be used to point the following types of methods −
    2. Static methods
    3. Instance methods
    4. Constructors using new operator (TreeSet::new)
    5. Explain the System.out::println expression.
    6. System.out::println method is a static method reference to println method of out object of System class.
24. What are functional interfaces?
    1. Functional interfaces have a single functionality to exhibit. For example, a Comparable interface with a single method 'compareTo' is used for comparison purpose. Java 8 has defined a lot of functional interfaces to be used extensively in lambda expressions.
25. What is the purpose of Consumer<T> functional interface?
    1. It represents an operation that accepts a single input argument and returns no result.
26. What is the purpose of Predicate<T> functional interface?
    1. It represents a predicate (Boolean-valued function) of one argument.
27. What is the purpose of Supplier<T> functional interface?
    1. It represents a supplier of results.
28. What are default methods?
29. What are static default methods?
30. What is streams in Java 8?
31. What is stream pipelining in Java 8?
32. What is the difference between Collections and Stream in Java8 ?
33. What is the purpose of map method of stream in java 8?
34. What is the purpose of filter method of stream in java 8?
35. What is the purpose of limit method of stream in java 8?
36. What is Parallel Processing in Java 8?
37. What are collectors in Java 8?
38. Collectors are used to combine the result of processing on the elements of a stream. Collectors can be used to return a list or a string.
39. What is Optional in Java8?
40. Is it possible to implement two interfaces having default method with same name and signature? Explain with example?
41. Is it possible to define our own Functional Interface? Explain the rules to define a functional interface.?
42. What is Optional in Java 8? Explain its advantages?
43. What is the difference between Predicate and Function?
44. Explain the difference between intermediate and terminal operations.
45. What is stream pipelining in Java 8?
46. What is StringJoiner?

Junit

1. What is TTD and BDD?
2. Did you use JUnit? Describe the test cases for adding two numbers?
3. Did you use an external plugin for running unit test coverage?
4. Unit testing and Integration testing (how to junit how to mockito)
5. How integration test are done
6. Unit test
7. TDD
8. If you need to handle to unit testing which methods have dependency on each other, How do you do that?
9. Explain Junit Test case TDD, & explain BDD as well.
10. how to write Junit tesing

DesignPattern

1. What kind of patterns did you use for your project?
2. Describe adapter patterns?
3. What is abstract factory design pattern ?
4. Explain design patterns that you have implemented?
5. singleton vs factory design pattern
6. Solid principles

Database

Sql Join types?

Aggregate functions?

Union vs unionAll?

ORM vs JDBC?

What is lazy\_egar in hibernate

What is sql injection & how to prevent it using JDBC?

Difference between Union and UnionAll?

'Having' in SQL?  
 Inner and Outer Join?