**Java Platform**

* 1 . Why is Java so popular?
* 2 . What is platform independence?
* 3 . What is bytecode?
* 4 . Compare JDK vs JVM vs JRE
* 5 . What are the important differences between C++ and Java?
* 6 . What is the role for a classloader in Java?

**Wrapper Classes**

* 7 . What are Wrapper classes?
* 8 . Why do we need Wrapper classes in Java?
* 9 . What are the different ways of creating Wrapper class instances?
* 10 . What are differences in the two ways of creating Wrapper classes?
* 11 . What is auto boxing?
* 12 . What are the advantages of auto boxing?
* 13 . What is casting?
* 14 . What is implicit casting?
* 15 . What is explicit casting?

**Strings**

* 16 . Are all String’s immutable?
* 17 . Where are String values stored in memory?
* 18 . Why should you be careful about String concatenation(+) operator in loops?
* 19 . How do you solve above problem?
* 20 . What are differences between String and StringBuffer?
* 21 . What are differences between StringBuilder and StringBuffer?
* 22 . Can you give examples of different utility methods in String class?

**Object oriented programming basics**

* 23 . What is a class?
* 24 . What is an object?
* 25 . What is state of an object?
* 26 . What is behavior of an object?
* 27 . What is the super class of every class in Java?
* 28 . Explain about toString method ?
* 29 . What is the use of equals method in Java?
* 30 . What are the important things to consider when implementing equals method?
* 31 . What is the Hashcode method used for in Java?
* 32 . Explain inheritance with examples .
* 33 . What is method overloading?
* 34 . What is method overriding?
* 35 . Can super class reference variable can hold an object of sub class?
* 36 . Is multiple inheritance allowed in Java?
* 37 . What is an interface?
* 38 . How do you define an interface?
* 39 . How do you implement an interface?
* 40 . Can you explain a few tricky things about interfaces?
* 41 . Can you extend an interface?
* 42 . Can a class extend multiple interfaces?
* 43 . What is an abstract class?
* 44 . When do you use an abstract class?
* 45 . How do you define an abstract method?
* 46 . Compare abstract class vs interface?
* 47 . What is a constructor?
* 48 . What is a default constructor?
* 49 . Will this code compile?
* 50 . How do you call a super class constructor from a constructor?
* 51 . Will this code compile?
* 52 . What is the use of this()?
* 53 . Can a constructor be called directly from a method?
* 54 . Is a super class constructor called even when there is no explicit call from a sub class constructor?

**Advanced object oriented concepts**

* 55 . What is polymorphism?
* 56 . What is the use of instanceof operator in Java?
* 57 . What is coupling?
* 58 . What is cohesion?
* 59 . What is encapsulation?
* 60 . What is an inner class?
* 61 . What is a static inner class?
* 62 . Can you create an inner class inside a method?
* 63 . What is an anonymous class?

**Modifiers**

* 64 . What is default class modifier?
* 65 . What is private access modifier?
* 66 . What is default or package access modifier?
* 67 . What is protected access modifier?
* 68 . What is public access modifier?
* 69 . What access types of variables can be accessed from a class in same package?
* 70 . What access types of variables can be accessed from a class in different package?
* 71 . What access types of variables can be accessed from a sub class in same package?
* 72 . What access types of variables can be accessed from a sub class in different package?
* 73 . What is the use of a final modifier on a class?
* 74 . What is the use of a final modifier on a method?
* 75 . What is a final variable?
* 76 . What is a final argument?
* 77 . What happens when a variable is marked as volatile?
* 78 . What is a static variable?

**conditions & loops**

* 79 . Why should you always use blocks around if statement?
* 80 . Guess the output
* 81 . Guess the output
* 82 . Guess the output of this switch block .
* 83 . Guess the output of this switch block?
* 84 . Should default be the last case in a switch statement?
* 85 . Can a switch statement be used around a String
* 86 . Guess the output of this for loop
* 87 . What is an enhanced for loop?
* 88 . What is the output of the for loop below?
* 89 . What is the output of the program below?
* 90 . What is the output of the program below?

**Exception handling**

* 91 . Why is exception handling important?
* 92 . What design pattern is used to implement exception handling features in most languages?
* 93 . What is the need for finally block?
* 94 . In what scenarios is code in finally not executed?
* 95 . Will finally be executed in the program below?
* 96 . Is try without a catch is allowed?
* 97 . Is try without catch and finally allowed?
* 98 . Can you explain the hierarchy of exception handling classes?
* 99 . What is the difference between error and exception?
* 100 . What is the difference between checked exceptions and unchecked exceptions?
* 101 . How do you throw an exception from a method?
* 102 . What happens when you throw a checked exception from a method?
* 103 . What are the options you have to eliminate compilation errors when handling checked exceptions?
* 104 . How do you create a custom exception?
* 105 . How do you handle multiple exception types with same exception handling block?
* 106 . Can you explain about try with resources?
* 107 . How does try with resources work?
* 108 . Can you explain a few exception handling best practices?

**Miscellaneous topics**

* 109 . What are the default values in an array?
* 110 . How do you loop around an array using enhanced for loop?
* 111 . How do you print the content of an array?
* 112 . How do you compare two arrays?
* 113 . What is an enum?
* 114 . Can you use a switch statement around an enum?
* 115 . What are variable arguments or varargs?
* 116 . What are asserts used for?
* 117 . When should asserts be used?
* 118 . What is garbage collection?
* 119 . Can you explain garbage collection with an example?
* 120 . When is garbage collection run?
* 121 . What are best practices on garbage collection?
* 122 . What are initialization blocks?
* 123 . What is a static initializer?
* 124 . What is an instance initializer block?
* 125 . What is tokenizing?
* 126 . Can you give an example of tokenizing?
* 127 . What is serialization?
* 128 . How do you serialize an object using serializable interface?
* 129 . How do you de-serialize in Java?
* 130 . What do you do if only parts of the object have to be serialized?
* 131 . How do you serialize a hierarchy of objects?
* 132 . Are the constructors in an object invoked when it is de-serialized?
* 133 . Are the values of static variables stored when an object is serialized?

**Collections**

* 134 . Why do we need collections in Java?
* 135 . What are the important interfaces in the collection hierarchy?
* 136 . What are the important methods that are declared in the collection interface?
* 137 . Can you explain briefly about the List interface?
* 138 . Explain about ArrayList with an example?
* 139 . Can an ArrayList have duplicate elements?
* 140 . How do you iterate around an ArrayList using iterator?
* 141 . How do you sort an ArrayList?
* 142 . How do you sort elements in an ArrayList using comparable interface?
* 143 . How do you sort elements in an ArrayList using comparator interface?
* 144 . What is vector class? How is it different from an ArrayList?
* 145 . What is linkedList? What interfaces does it implement? How is it different from an ArrayList?
* 146 . Can you briefly explain about the Set interface?
* 147 . What are the important interfaces related to the Set interface?
* 148 . What is the difference between Set and sortedSet interfaces?
* 149 . Can you give examples of classes that implement the Set interface?
* 150 . What is a HashSet?
* 151 . What is a linkedHashSet? How is different from a HashSet?
* 152 . What is a TreeSet? How is different from a HashSet?
* 153 . Can you give examples of implementations of navigableSet?
* 154 . Explain briefly about Queue interface?
* 155 . What are the important interfaces related to the Queue interface?
* 156 . Explain about the Deque interface?
* 157 . Explain the BlockingQueue interface?
* 158 . What is a priorityQueue?
* 159 . Can you give example implementations of the BlockingQueue interface?
* 160 . Can you briefly explain about the Map interface?
* 161 . What is difference between Map and sortedMap?
* 162 . What is a HashMap?
* 163 . What are the different methods in a Hash Map?
* 164 . What is a TreeMap? How is different from a HashMap?
* 165 . Can you give an example of implementation of navigableMap interface?
* 166 . What are the static methods present in the collections class?

**Advanced collections**

* 167 . What is the difference between synchronized and concurrent collections in Java?
* 168 . Explain about the new concurrent collections in Java?
* 169 . Explain about copyonwrite concurrent collections approach?
* 170 . What is compareandswap approach?
* 171 . What is a lock? How is it different from using synchronized approach?
* 172 . What is initial capacity of a Java collection?
* 173 . What is load factor?
* 174 . When does a Java collection throw UnsupportedOperationException?
* 175 . What is difference between fail-safe and fail-fast iterators?
* 176 . What are atomic operations in Java?
* 177 . What is BlockingQueue in Java?

**Generics**

* 178 . What are Generics?
* 179 . Why do we need Generics? Can you give an example of how Generics make a program more flexible?
* 180 . How do you declare a generic class?
* 181 . What are the restrictions in using generic type that is declared in a class declaration?
* 182 . How can we restrict Generics to a subclass of particular class?
* 183 . How can we restrict Generics to a super class of particular class?
* 184 . Can you give an example of a generic method?

**Multi threading**

* 185 . What is the need for threads in Java?
* 186 . How do you create a thread?
* 187 . How do you create a thread by extending thread class?
* 188 . How do you create a thread by implementing runnable interface?
* 189 . How do you run a thread in Java?
* 190 . What are the different states of a thread?
* 191 . What is priority of a thread? How do you change the priority of a thread?
* 192 . What is executorservice?
* 193 . Can you give an example for executorservice?
* 194 . Explain different ways of creating executor services .
* 195 . How do you check whether an executionservice task executed successfully?
* 196 . What is callable? How do you execute a callable from executionservice?
* 197 . What is synchronization of threads?
* 198 . Can you give an example of a synchronized block?
* 199 . Can a static method be synchronized?
* 200 . What is the use of join method in threads?
* 201 . Describe a few other important methods in threads?
* 202 . What is a deadlock?
* 203 . What are the important methods in Java for inter-thread communication?
* 204 . What is the use of wait method?
* 205 . What is the use of notify method?
* 206 . What is the use of notifyall method?
* 207 . Can you write a synchronized program with wait and notify methods?

**Functional Programming - Lamdba expressions and Streams**

* 208 . What is functional programming?
* 209 . Can you give an example of functional programming?
* 210 . What is a stream?
* 211 . Explain about streams with an example?
* what are intermediate operations in streams?
* 212 . What are terminal operations in streams?
* 213 . What are method references?
* 214 . What are lambda expressions?

- Lambda Expressions is a new feature of Java 8 that making the code more clearer and flexible.

* 215 . Can you give an example of lambda expression?
* 216 . Can you explain the relationship between lambda expression and functional interfaces?
* 217 . What is a predicate?
* 218 . What is the functional interface - function?
* 219 . What is a consumer?
* 220 . Can you give examples of functional interfaces with multiple arguments?

1. What is a lambda expression ?
2. What are advantages of lambda expression ?
3. What is a functional interface ?
4. What is the type of a lambda expression ?
5. What is the target type of a lambda expression ?
6. What is the difference between an interface with default method and an abstract class ?
7. Are the abstract classes still useful ?
8. What is the difference between a predicate and a function ?
9. What is the difference between a collection and a stream ?
10. What is the difference between intermediate and terminal operations in streams ?

**New Features**

* 221 . What are the new features in Java 5?
* 222 . What are the new features in Java 6?
* 223 . What are the new features in Java 7?
* 224 . What are the new features in Java 8?