Contents

Java

Object-Oriented Programming (OOPs)

1. OOPS and solid principles (overloading, overriding, scope, hierarchy)

2. Design patterns (SOLID Principles, Singleton, etc.)

3. There is a object(names is address), which has two properties streetId, Streetname

   a.Street1, wallstreet

   b. Street2,wallstreet

   c. Street2,pathstreet

   If we push the above records , what is the size in hashmap and treemap?

   Id and name are used for hashcode and equals method.

   Street name is used for compareTo method

4. What is immutable class? What is the benefit custom immutable class?

5. Why should I go for Abstract class and interface (problem with classes)?

6. How to use 5 abstract classes in a single class?

7. What is Polymorphism

8. Explain Design pattern

9. What is Decorator design pattern

10. Explain Singleton design pattern and how it is implemented

11. Explain Strategy design pattern

Core Java

13. Java keywords (volatile, atomic, immutable object)

14. Synchronization, Serialization, etc.

15. Exception Handling

16. Java Interface

17. Common sorting algorithms and their time complexity

18. Explain about JVM architecture and working model?

19. Explain Garbage Collector, Memory management concepts, GC in Java 8

20. Explain class loaders concepts (application, dependent, system, bootstrap)

21. What is an immutable object? What is the benefit, and when do we use it?

22. Method Overriding, Polymorphism

23. Java 8 Features

24. Program for finding the Missing number in the given array of numbers?

25. Java 8 features on stream, lambda expression, and Data and Time API

26. Packages in Java

27. What is annotations? Custom annotation?

28. Java query to find Palindrome

29. Find 2 numbers which have summation 15 from array of first 8 numbers.

30. Write a program to reverse a string?

31. What is transaction in Hibernate?

32. Array of string reverse without using 3rd variable

33. Program for duplicate letters

34. Longest substring without repeating character

35. Closest sum value with time complexity O(n)

36. Write a program to get max and min value in an array

37. Write a program to get Fibonacci series

38. count duplicate characters in a string using java.

39. Diff. between Association and Inheritance

40. What is predicate?

41. Write a program to find unique string. Output = Vinay

    Input => String str = [Vinay, Vinayak, VinayUST, BLRVinayaka]

Threads and Concurrency

57. What is the maximum limit for threads that can be created?

58. What is an executor service? Threads with a multi-core CPU. What is a thread local?

59. Runnable and callable and executor service

60. Concepts and Situational-based questions on multi-threading, threads, and concurrency (static and non-static synchronization, wait less-locking)

61. How indexing and hashing works in HashMap?

62. How concurrent hashmap works?

63. Employee object has getEmployee and setEmployee, how do you ensure the exception is not there?

64. How lock mechanism works, and how about reentrant locks?

65. Explain about, cyclic barrier, semaphore, CountDownLatch, give the example for each one?

66. Which thread pool is used for parallel stream?

67. When you use newfixedthreadpool and cachedthreadpool?

68. Multithreading - callable and Runnable

69. What is Java Executor framework

Collections

71. Set Internal implementation.

72. Collections (HashMap, TreeMap, PriorityQueue)

73. Internal implementation of HashSet?

74. Write a program to find the duplicate elements in an array

75. What collection to use to maintain the insertion order for HashMap?

76. What is a volatile keyword? Can we store an array in volatile?

77. How sorted hashmap works?

78. If I change the entry set object in hashmap, is that will change the entries available in the hashmap?

79. Hashmap internal working flow

80. Hashmap put method return type

81. What is the difference between distinct and toset? And when to use?

82. How to print first 5 employee ids in a list<employee> using streams?

83. What order stream api follows, if we have multiple filters and peaks?

84. Collections - Explain difference between HashMap and Linked HashMap

85. Remove duplicate value from array and Time complexity should O(n)

86. What is comparator?

87. How to sort tree map using key and value. Key and value should user defined objects.

88. Does hashmap support null?

89. Fetch the 2nd largest array using collections

90. Difference between HashMap and Concurrent HashMap?

91. Treeset vs Hashset

92. Java 8 Streams

93. What kind of data structure can you convert to stream?

94. How streams works? And its operations?

95. Stream API

96. Java stream coding

97. Assuming you have a List of Employee objects with fields like firstName, lastName, age, salary, etc. and you want to filter the employees whose last name starts with letter 'A' using Java 8 streams

98. Assuming you have a List of Student objects, where each Student has a name and age field. Get the list of students whose age is above 18 using java8

99. Data Structure(explain Internal Programs) Cover all the Time Complexity

    SingleLinkedList

    DoubleLinkedList

    Example- I want to count the Size of the LinkedList include Time Complexity

    I want to get middle element of the LinkedList only using one loop including time

Spring Boot

100. Spring, Spring Boot

101. Spring framework, Initializr, Spring Boot, and REST services with Spring

102. What are the different types of Spring bean?

103. What is the default scope of Spring bean?

104. What is the Use of BeanPostProcessor in Spring?

105. When would you use constructor injection/setter injection?

106. Brief on Spring boot, AOP (Aspect-Oriented Programming)

107. How does auto-configuration work in Spring boot? From which file auto-configuration is stored/loaded?

108. How do we create customized annotations in Spring?

109. Design concepts in services, integration, security, and best practices

110. Concepts of REST services

111. What is microservices and reg spring boot?

112. what is transactional annotation in spring boot?

113. Find the 2nd highest salary from emp table?

114. What does spring boot's main class and method do ?

115. How to include all the controller package to this class

116. Instead of hello string provide a response in json.

117. Write a hello world program in spring boot?

118. If you want to design a rest controller, how will you design?

119. Different methods used in Restful webservice.

120. If I want to get data which method to use

121. What is the difference between PUT and POST?

122. What is API Gateway?

123. What are the different types of autowiring in spring?

124. Spring boot internal working?

125. @primary and @qualifier

126. Deployment process

127. What is spring security? How to implement it?

128. How to manage and monitor spring boot application.

Data Structures and Algorithms

129. Some programming related to array, strings, stack, and queue, linked list (Find duplicates in arrays, how do you make anagrams from a string)

130. Data structures and application of them within projects

131. Situational-based data structures and algorithm questions

132. Database concepts (SQL concepts, Query performance tuning)

133. What is the difference between unique constraint/primary key constraint?

134. Does unique allow null values?

135. Query for max salary of an employee, second max salary of the employee, third max salary of the employee – query

136. How do you compare two binary trees are identical? And its complexity calculations?

137. Given airline ticket itineraries, how

Mockito and Power Mockito

126. Why Mockito and Power Mockito used?

127. Difference between MOCK and InJect Mock

128. Write the EmployeeRestController test class for persistEmployee() method of EmployeeService class with required Annotations

129. What is the difference between mock and spy functions of Mockito?

130. When to use Mockito and when to use power Mockito?

131. How does Mockito work?

Rest API

132. What are http methods are available in rest API? Explain each method

133. How will you secure your rest API?

134. Microservice advantages and disadvantages

135. What is the usage of microservices?

136. What is Idempotency?

137. When do you get connection timeout/socket exception with REST services?

System Design

138. Design a system for Tiny URL

139. Write Algo for Tiny URL

140. System Design for Application

141. Scalability of the Application

142. Message Handling of the application

143. Fault tolerance

144. Scenarios were given and asked to develop frameworks

145. What are the status codes 401, 402, 403 about?

Database

146. In which scenario which database will you chose?

147. Difference between RDBMS and NO-SQL

148. SQL join queries

149. What all databases are available?

150. There is Party table with columns name as partyId and partyStatus

1. write a query to get the partyId's from the party table where partyStatus='RESOLVE'
2. the condition here is partyId:1 having partyStatus as NEW, RESOLVE, WORK IN PROGRESS
3. After executing the query we should not get partyId:1 we should get only partyId:2,4

Generic

151. Questions about Git, how to push / pull and stash.

152. Unit testing, basic build/release processes

153. Tell about Testing strategy, tests runners, CICD pipelines, etc.

154. How do you manage merge conflict.

155. Difference between monolithic and microservice

156. API testing -

    Different Methods (GET, PUT, POST, PATCH)

    Differences between PUT & POST

    Query parameter and Path parameter

157. What are technologies used in previous project and what you implemented in previous project.

158. Which tool you use to get task and which methodology is using either agile/water fall?

159. Problem Statement and solve in Java 8:

    Given a string , if String contain only alphabets(""abc"") then throw custom Exception else if String contain alphaNumberic (""abc12"") then remove all Alphabets from String and do following things:

    if number is divisible by 2 then do increment count

    if number is not divisible by 2 then sub -1 from that number

    Continue till Number becomes 0 and return -> ""count of times number is divisible by 2""

160. Given airline ticket itinerary, how do you identify the route and destination and how do you find the complete route from that. Complexity of that?

    Example is:

Start location	End Location
Chennai	Bangalore
Bombay	Delhi
Goa	Chennai
Delhi	Goa

161. One guy travelling from Delhi -> Pune then Pune -> Bangalore then Bangalore-> Hyderabad How to get start point and endpoint of travelling?

Scala Spark

1. Write higher order function (we were asked to define use case where higher order function used and we have to write code while in interview)
2. partially applied function.
3. Apply.
4. Unapply.
5. collections
6. why spark executed in stages?
7. what is disadvantage of transformation and action?
8. how spark decides on stages split
9. write a spark program : A use case will be given
10. general questions based on CV - like have you worked on cloud infrastructure, what is your earlier projects etc..

Selenium

1. Selectors and locators using xpath and css
2. framework development
3. Defect Life cycle
4. SDLC
5. Waits in selenium?
6. Selenium Framework explanation
7. Different types of selenium frameworks
8. Difference between close and quit in webdriver.
9. Find locator for gmail link in Chrome opening page

Angular, React

1. NGRX anatomy and working principle.
2. class concepts with abstract, inherit and OOPS programming.
3. generator functions
4. jasmine/karma TDD
5. CICD configuration and deployment models
6. Docker
7. What is Lazy loading?
8. Explain about data bindings in angular.
9. Question on HTTP Interceptors.
10. scenario based questions in angular.
11. Explain about component life cycle hooks?
12. Questions from JavaScript and TypeScript.

Informatica

1. Lookup
2. Parameters and variables
3. Performance tuning
4. Joiners
5. SCD types

General Questions

1. Explain about last worked domain and project experience.
2. Problem solving methods.
3. Blocker resolution methods.
4. What are the roles and responsibility you had in the previous Project?
5. Tell me about yourself.
6. Day to day activity in project