#################################--Core-Java--#################################

what are the java memory areas?

Describe Java memory model and how garbage collection manages memory.

how JVM works?

how do you overcome memory overflow error?

explain java class loader?

what are class loader and how many types.

whether we can extend two classes? if we extend how to do that?

what is copy constructor, how do u clone an object (deep and shallow)?

Does constructor return value? if not when we use new operator? does it return any value?

What is the use of inner class or anonymous class

what is serialization and how do you do? can u write serialization? what are the method

what is transient?

what if you serialize the singleton object and while deserialization how do u make sure only one instance is created?

what is contract between equal and hash code?.

what’s final and finalize?

how to convert list of employees to map null

Wrapper class in java?

Difference between class, subclass, and inner class?

inheritance vs polymorphism?

abstraction vs encapsulation?

What is Interface and abstract class and the situation to use.

Association, aggregation, composition differences,

difference between stack and heap?

why we override equals and hash code?

Write the implementation of equals and hash code methods?

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1. Difference between Comparable and Comparator?

2. Whene should we go for comparable and when should we go for comparator?

3. How many constructors are there in Optional class?

4. What are all the methods are available in Optional class?

5. What's the main purpose of use of Optional class?

6. What is stream in java?

7. What are all the features are added in java 8/11 ?

8. Differnce between static and default method in interface?

9. What is functional interface ? And what are all predefined functional interfaces are available in java??

10. what is the use of lambda expression ? Write down code, whice represent lambda expression.

11. List<Integer> numbers = Arrays.asList(3, 2, 2, 3, 7, 3, 5);

Q1. Write the logic to find out highest number from the list using stream function.

Q2. Write the logic to find out highest repeted number from the list using stream function.

12. What is spring-boot? Diff btwn Spring and SpringBoot?

13. How many components are there in springBoot?

14. Explain about @SpringBootApplication?

15. What's the use of Actuator?

16. How many SterioType Annotations are there in SpringBoot?

17. Can we use @Controller instead of @Service?

18. What is the default port available in SpringBoot? Can we change the default port of the server, if Yes, how many way we can change server port in SpringBoot?

19. Can we change inbuilt server in SpringBoot??

20. How to configure Spring Security ??

21. Diff btwn yml and property file??

22. what is Spring Initializer?

23. Explain Microservice Architecture?

24. fail-fast and fail-safe, with an example

25. Write the code for controller layer for insert, update and delete operation of an emplyee data.

26. Diff btwn PathParam and PathVariable.

27. Diff btwn Soap and Rest??

28. How many types of design pattern you know? Explain Singleton Design Pattern.

#################################--String---#################################

What is string pool? Can we have mutable string in Java?

difference between String/StringBuilder/StringBuffer.

How to create immutable class? What if class is not final?

What are immutable classes? How to create immutable classes? What are advantages of Immutable classes?

#################################--Exception-Handling---#############################

Try with resource

finally

What is difference between ClassNotFoundException and NoClassDefFoundError?

What is throwable, interface or class?

checked exception and unchecked exception?

what is filenotfound exception?

how to handle nullpointer exception?

how to write custom exception?

exception hierarchy in java?

how to write custom exception in java?

####################################---Java-8---##################################

what is method references?

Explain String::someMethod ?

what is java8 features, what’s the advantage of lambda expression, streams?

Explain pipeline stream into Java. Does stream creates copy of collection object or uses same reference.?

what is optional feature?

what is date API?

forEach and stream in java 8?

how to concat 2 streams in java 8?

###################################---Collection---###################################

Collection Framework – List, Set, Queue and Map. Fail-safe and Fail-fast implementations. Sortable Interfaces with implementations.

How sorting works in collection frameworks – difference between Comparator and Comparable. Write implementation of these interfaces

difference between array list and linked list?

Stack implementation using link list

difference between list and LinkedList, when they are used?

Implementing Singly linked list

what is fail safe and fail fast? explain with example.

In which scenario we must use failsafe and fail fast? have u used? which scenario did u use?

How to make list to failsafe?

suppose if have 10 employee object in a list, how do u sort them by id and Name?.

when we use comparable and comparator.

how you sort the list? write the program to sort list using single for loop ascending or descending? what is the complexity?

Different Collection framework interfaces and classes

java.util.Map internal working with data structures

Implement Map.put for value then key

Difference between Vector/ ArrayList, HashTable/HashMap.

In Hash map how to use user defined object as key?

How HashMap works Internally? technique? complexity?

vector and concurrent HashMap difference?

what is concurrent HashMap?

What is a HashMap. How you can iterate HashMap . write implementation.

HashMap internal working with data structure

what is weekhashmap?

What is week reference and what is strong reference.

What is copyOnWriteArrayList?

how to synchronize HashMap?

TreeMap vs SortedMap

design map such way if we have value ,get the key ,vice versa?

Set implementation

what happens if add null to tree set---null pointer exception.

Tell the size of the set here?

Solution:

Set set = new HashSet<>();

Student s1 = new Student();

Student s2 = new Student();

set.add(s1);

set.add(s2);

set.size(); // answer is 2

Difference between iterator and ListIterator?

iterate element from list with java1.8

###############################--Thread--Synchronization--########################

what is synchronization

How do we create thread? what if we are not implementing run() method in Thread class does it give error?

What will happen to static method and common shared object during multithreading

What will happen to multithread program accessing different objects per thread

what are method in Object Class(wait, notify, equal and hash code...etc)?.

a class has static and non static synch created two thread of the same class

trying to invoke synch static ,what will happen, with synch method and without synch

static? synchronized? static synchronized methods order of the execution?

what are blocking queue?

what are reasons for thread to be in waiting state?

what is volatile variable

how multithreaded application returns thread

#################################--Spring--#################################

Spring IOC container inner working

Spring different annotations

Spring different versions and differences

what’s the use of dependency injection?

Spring AOP interceptor inner working

Implementing Spring data JPA with multiple databases

How singleton is implemented within spring IOC, how to change the scope with implementation

AOP , what is advice. Mainly looking for this concept?.

spring JPA, be perfect in this?

In spring- singleton scope is thread safe?.(its not thread safe)

Different ways to implement Singleton, how to implement singleton in serializable case

Configuring build using maven/Gradle with spring application

Why use Spring Boot? What are advantages? How to manage custom dependencies other than provided by Spring Boot.

What is use of Spring Data?

architecture of spring, hibernate

transaction management in spring

how spring boot starts up?

how spring security works?

how do you handle authentication spring boot

Aop-transaction management

how to deploy sprig boot application production

how spring boot application works?

If @component not used what happen in springboot

What is @component

How many ways to autowire?

#################################---MVC-REST---#################################

MVC framework internal working for struts and spring

Different REST implementations(jersey and resteasy)(examples for POST, PUT)

UI framework like react/angular:(How to build, test, design UI, include CSS, integrate with spring ui like thymeleaf)

javascript,restful,boot strap

which annotation used , what’s the difference it makes if you use component instead service

what is rest

what is path annotation

how http header received in rest

what is servlet, how multiple request to a servlet is served?

servlet life cycle, what is servlet?

how multiple request are served in servlet?

how to propagate exception to front end?

how to make asynchronous calls to rest API?

how do you tell webservice that you want a particular type

how to mention the converter in response body

auto wire return type

rest controller and controller

. Write an API for getting and return a single data?

How to tell API for "application/json" and "application/xml" consumption.

5. What are the http status code in rest?

14. Write the rest api for @PathParam

8. Rest API methods, and explain with examples for get and post methods.

SSL/http request

can we have only 1 rest API for 2 different customers? if yes how to do it?

Difference between PathVariable PathParam and QueryParam. Why Queryparam is better tha PathParam?

#################################--JPA\*\*\*\*Hibernate--##############################

1Entity mapping types in JPA or Hibernate

2)JPA Lifecycle events : PrePersist, PostPersist, PostLoad, PreUpdate, PostUpdate, PreRemove, PostRemove

3)What is difference between Hibernate and JPA? Or are the same?

4)what is different level caches?

5what is session factory?

6)what are the annotation in JPA?

7)what is a Named Query?

8)what is difference between get and load?

11. What ORM tool?

12. caching in hibernate

13. Mapping in hibernate

What SQL injection

How to unable second level cache

@primary in hibernate

Question on JPA interface. How to implement and how to use it in API?

// Add method using JPA

@PostMapping("/students")

public Student add(@RequestBody Student student){

repo.add(student);

}

Levels of cache in Spring Hibernate?

#################################--Data-Base--#################################

difference between primary key and unique key?

difference between joins and subqueries

Triggers in DB

How do you invoke Procedures and functions

What are different DDL and DML statements in SQL

Stored procedure various blocks, how to invoke them

what is common for update column size in DB

there multiple operation DB get rid redundancy --optimal

joins, subqueries, triggers, procedure

diff between subquery and joins?

integrate SQL and java

what is DDL DML?

what is ACID property

what is JDBC connection steps

what is locking in the DB in Transaction management?

explain joins

callable interface and runnable interface

#################################--Microservices--###############################

Did you work on microservices?

how do you manage Transaction in Microservice?

how do you manage session in Microservice?

how do you secure Microservice?

How ach service communicate with other service in microservices architecture?

How will you migrate monolithic application into micro service application

What is difference between monolithic application and microservice application.

What is advantage of microservice architecture over monolithic.

How to communicate one microservice to another.

How to authenticate the microservice

################################--Junit--#####################################

Name few test annotation

why mockito is used?

what junit test cases, how to mock pojo classes when db team is still writing the db design?

###################################--Design Patterns--###############################

What is singleton class? How to create?

how do you make sure you are returning singleton instance?

Different design patterns like Observer, builder?

Routing patterns

Client resiliency patterns

Security patterns

Logging and tracing patterns

Build and deployment patterns

###############################--Docker--Kubernetes--#########################

How does docker, Kubernetes, OpenShift works into containerization.

Explain concept of scalability and HA into containerization.

Explain single sign on.

What is difference between docker file and image file? Which one used for container deployment.

How will you capture container health matric data? Using yaml or json format.

Why do we use Kubernetes and dockers?

#################################---Coding-- questions---#############################

Write code to reverse a string using recursion?

write code to String reverse with reflection

write code take integer array and sum of those

write code like take array int and pair of two numbers will be next number

How to merge two array list eliminate the duplicate?

10098 interchange the digits produce smallest possible number?

Producer -consumer problem?

write code take integer array and sum of those

write code like take array int and pair of two numbers will be next number

Write code to reverse a string using recursion?

Write code - Input:abc, Output: abc acb bac bca cba cab print ?

1. Integer Array sorting

2. Check each character in a string is unique or not ?

3. Retrieving elements from an int array based on some condition

example: Input1: 105264

Input 2: Position 2

Output: 102456

4. Generate a problem for read and write

5. Having an arrary list of employees, increase the salary of employees by 10000

6. Having an array list of employees, filter the employee based on the given input

7. Write a function interface to add the sum of two numbers

8. write a programm to merge 2 integers arrays and sort them

9. write a programm to sum all the elements in the integer array using streams

10. write a programme to find employees from a list with specific salary

11. Program for Database - Entity Relation with example