Java question Bank 1

*********************CORE JAVA*****************
-OOPs Principles - Encapsulation, Abstraction, Polymorphism, Inheritance
-Classes, Objects
-Interface vs Abstract Class
-If we can create the constructor for Abstract class, then why we can't create the object of Abstract class?
-What is Interface default method and why it is introduced?
-Can overloading be done in derived(child) class.
-Hash map internal working enhancement in Java 1.8?
-String operations questions
-Exception Handling alongwith hierarchy
-Collection Framework
-Employee class how to store unique object in Set and Map.
-what is generic class and its example?
-Which map you should use to have the insertion order preserved?
-What is the optimal way to find the second max value from the array?
-Sort array which includes 0 & 1 without using Collections.sort()?
-What is the contract between hashcode and equals method?
-Difference between comparabale and comparator?
-Internal working of hashmap, concurrent hashmap, arraylist, linkedlist,set?
-Difference between Hashmap and hashtable?
-Can we store null key in hashmap?
-What is concurrent modification exception & how we can resolve this?
-What is fail-fast and fail-safe ?
-What is the use of volatile keyword?

*********************************JAVA 8**************************
-Java 8 New features
-Lambda Expression, Fuctional Interfaces, Stream APIs, Marker Interface, Predicate, DateTime API, Optional
-Why default method was introduced in Java 8?
-What will happen if we provided null value in predicate?
-Which Functional interface is used internally by map() method of stream api?

**************************Java Programs****************************
-Program to get all employees whose salary >5000 and convert the result in Map using streams?
-Get the IT department Employees from Employees list using Stream API
-Get the Employees with respect to department, where departments are IT, HR, Security. Don't use Stream API!
-java 8 stream api group by department and sort by age in Employee class.

****************************JUnit & Patterns*************************
-Mock and Inject mock?
-How to write JUnit for private methods?

-Which design patterns use used?
-Singleton design pattern and how to make it thread safe

**************************Multithreading*******************************
-Mulithreading
-What are the different states in lifecycle of thread?
-how to create Thread using thread class and Runnable Interface
-synchronized block, synchronized method
-What is java concurrency API?
-Executor class
-why we call start() on thread object
-type of thread lock

****************************DB Questions***
-Find the name of employee of second max salary from the employee table
-different type of index
-Email validation with sql queries
-What are Joins? And types of Joins?
-Remove duplicate from table with sql queries
-database trigger

*********************************Spring/SpringBoot***************************
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Spring/Spring Boot
-By how many ways you can create Spring Boot Project?
-What is the use of @SpringBootApplication annotation?
-Workflow of springboot application using example?
-how to consume XML/json from Spring boot without code changes in spring boot
-Benefit of SpringBoot?
-bean lifecycle
-What are the different types of annotations you have useed?
-How can we handle exceptions globally in a spring boot application?
-What is the use of multiple properties files in spring boot?
-How can we do caching in Springboot?
-How can we configure swagger in spring boot?
-What are synchronous and asynchronous calls in spring boot?
-How to call external API?
-How to implement spring security in microservice
-Spring boot actuator
-Create database connection using spring boot
-How to use 2 db in same project.
-Profiling in spring
-Spring AOP
-Spring MVC workflow
-How can you build & deploy your application locally?

*********************************Microservices*****************************

-What is microservice architecture?

-What is difference between monolithic & microservice architecture

-What are the different ways to call APIs within a microservices architecture?

-What is APIGateway, Service Discovery,Eurerka?

-If API gateway is down then how the microservice request will be fulfilled?

-What is fault tolerance? How can we handle this using hystrix?

-Some middleware services

-Linux command

-Word count from file using Linux commands

-MQ/Solace/Kafka

Java Question Bank 2

1. Why strings are immutable ?
2. What are different memory types in java?
3. what will be output of below ? String
   s1="abc";
   String s2= new String("abc"); String s3="abc"
   System.out.println(s1==s2);
   System.out.println(s1.equals(s2));
   System.out.println(s1==s3);
4. What is contract between equals and hashcode method ?
5. What are the feature introduced in java 8?
6. Why most of developers are still using java 8 ?
7. What are new features of java 8 ?
8. what is stream api?
9. what is difference between hashmap and hashset?
10. what is failsafe and failfast ?
11. write a code to find list of odd numbers from 1 to 10 using stream api
12. what is spring boot ?
13. what are benifits of using spring boot ?
14. how to write controller ?
15. what is difference between put and post ?
16. what are microservices ?
17. What is difference between inheritence and composition?
18. what is abtract class and interface?
19. What is an immutable class and how to create immutable class. 20:what is difference between String and StringBuilder.
21. What is difference between comparable and comparator.
22. what is overloading and overriding?
23. what is final, finally and finalize?
24. Can we override a static method?
25.Heirarchy of the Exception.
26. what are the collections used in the project?

27. Heirarchy of the collections?
28. What is difference between HashMap and HashTable? 29.Internal implementation of HashMap.
API Gateway->

30.What are the new features in java8? 31.Difference between Arrays and collections? 32.Difference between Spring and Spring boot?
33. What are the annotations in Spring boot? 34.Difference between @Controller and @RestController?
35. Use of @Quilefier annotations.
36. Difference between @Component and @Service anotations?
37. What is difference between put and post ? 38. Hashmap<String,Integer> hashmap=new Hashmap();

```
hashmap.put(1,"abc");
hashmap.put(1,"xyz");
hashmap.get(1) //xyz

hashmap.put(null,"abc");
hashmap.put(null,"xyz");
hashmap.get(null) //xyz
```
39. when to use arraylist and when to use linkedlist ?

40. //Write a Java 8 program to find most occured char import

```
java.util.Map;
import java.util.stream.Collectors;

public class Main {
    public static void main(String[] args) { String input = "Hello,
        World!";
        Map<Character, Long> charFrequency = input.chars()
                    .mapToObj(c -> (char) c)
                    .filter(Character::isLetterOrDigit)
                    .collect(Collectors.groupingBy(c -> c, Collectors.counting()));

        char mostOccurringChar = charFrequency.entrySet().stream()
                    .max(Map.Entry.comparingByValue())
                    .map(Map.Entry::getKey)
                    .orElseThrow();

        System.out.println("The  most occurring character is: " + mostOccurringChar);
    }
}
```

41. Explaine about Resilency in Micorservices.
42. What are microservice and what are the advantages and disadvantages compared to waterfall model.
43. How you handled Exceptions in your Project .(Global exception, and custom exceptions).
44. How you handled production tickets .
45. How to add Jetty server in Springboot (when spring comes with Tomcat).
46. How can we start 4 thread at same time in syncronous way.
47. what are the annotations used in springboot.
48. what are @Qualifier and @Primary annotaions.
49. what are build tool you have used .Expaline the pipelines.
50. How Authentication is handled in your project (JWT token).
51. What are Checked Exception and RuntimeExceptions .

Questions shared by Amit Ghatage are below

1. Stream API -- Add Hashmap in stream and get elemnets 1 by 1

2. How to update a variable through ForEach method in java 8

3. how to get count of all elements in list using stream API-- count method

4. method overloading and overriding example

    ```java
    public void print(Object a){ System.out.println("Inside Object");

    }
    public void print(Integer a){ System.out.println("Inside
        Integer");
    }
              employee.print(1);
                employee.print(1.0);
                employee.print(null);
    ```

5. Get vs Post

    Can we use GET for Update/add employee-- you can use but coventailly you should not use

Questions

1) What is method overloading,

example class ABC{

public void print(Object a){

System.out.println("Inside Object");

}

public void print(Integer a){

System.out.println("Inside

Integer");

}

public static void main(String[] args) {

ABC abc= new ABC();

// abc.print(1);

// abc.print(1.1);

abc.print(null);

Give the output of above

2) Write java8 code to print the odd number between a range of list from 3 to 13.

3) What is ArrayList and Linkedlist?

4) which one best to choose while sorting and while seraching ArrayList or Linkedlist, and why?

5) what is HashMap?

6) Difference between HashMap and CuncurrentHashMap?

7) How HashMap works internally?

5) What is the default size of LinkList and ArrayList?

8) What is @RestController and @Controller? Can we use @RestController in place of @Controller?

9) How to write Controller?

10) Get vs Post

11) Can we use GET in place of post?

12) Can we pass request Body in GetMapping?

13) Can we perform query on get method?

14) Can we use GET for Inserting employee Details?

Java question Bank 3

find sum of odd number from list of number <2 and >9 when

will finally will not exit

based on try catch finally, code based Questions with return statement in try and catch were asked handle custom

exception

explain restful webservices flow for getting a employee data for the given ID what

happen when id is not even in URL for @getmapping

Check cibil score from various sources for a particular person and concat the result in rest api

arraylist VS Linkedlist

if application is working on local,but not working in server, how you will apprach for fix/debug

what collection you will use for saving employees details and vaccination from which employees taken dose Questions

on java 8 map() function

1. Which is the parent class of all java classes?
2. What methods are the Object class having?
3. Find the o/p

   class A{

      int a = 2;

   }

   class B{

      int a=2;

   }

A a = new A();

B b = new B();

a.equals(b);(find)

4. Below is the list of integers, find the two separate list for the integers which are divisible by 3 ,4 using java8 or java6
list = {1,2,3,4,5,6,7,8,9,19,20,12}
o/p
list1 = {3,6,9,12}
list2 = {4,8,12}

5. Spring boot annotations
6. Explain the @SpringBootApplication annotation
7. Explain PUT and POST method, can we create file using PUT ?
8. How to do parallel processing? Is there any other way?
   If there is class A and Class B, how to handle with thread.
   role of start() and run()

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* Streams Explanation
* Difference between filter AND Map
* Difference between controller and rest controller
* Multithreading
* Oauth
* Difference between string, string buffer ,String Builder
* Java 8 features
* Multiple inheritance
* Method overriding with one example
* difference between Equals() and ==
* REST stands for
* About REST template
* @Mockito when it will be use
* How to interact to DB by using JDBC template.
* List sum of odd Integers from n list of integers using streams
* Why String is Immutable
* Explain about One Springbootapplication program
* List out Microservices components
* Difference between Interface and Abstract class
* What is Constructor

1. What is advantage of using stream? Did you check stream provide good performance without using stream code.
2. Which sprint boot version did you use and why?

3. Which maven version used and why?
4. Have you configured Jenkins job for your project deployment?
5. Contract between the HashMap and equals method?
6. What is optional class in java and why you used the optional classes in java?

1.Differance between Map & FlatMap

2. list={1,2,3,4,4,5,6,7,9,8}

   sum of odd integer between 2-9 ?

3.*class Super {*
private int a;
protected Super(int a) { this.a = a; }
}

class Sub extends Super {
public Sub(int a) { super(a); }
public Sub() { this.a = 5; }
}
Which independently, will allow Sub to compile?

4. Try with Resources

5. Diff between anonymaous class vs Lambda

6.
class One {
public One() { System.out.print(1); }
}
class Two extends One {
public Two() { System.out.print(2); }
}
class Three extends Two {
public Three() { System.out.print(3); }
}
public class Numbers{
public static void main(String[] argv) { new Three(); }
}
What is the result when this code is executed?

7. How to api using Rest template

8. what are two type of Transiant.
9. some memory management qusns.
10. competable feature
What is Aggreation and composition in Java.

1. Memory management in java ?
2. how many types of memory in java Explain.
3. How garbage collector works , How JVM know this object is no longer used so remove it.
4. write a code to pass Object from hashMap and store one value in it .
5. Write a code which will take some random numbers and print sum of even numbers from it .
6. Write a Thread program & Explain the life cycle of Thread.
7. Difference between Exception and Error in Exception handling .
8. Name some Checked exception and UnCheckedException in java.
9. Explain the collection heirarchy.

1. List sum of odd Integers from list of integers (3,2,4,5,6,9,6,7,3,2,10) using streams
   2. String s1="abc";
   String s2 = new String("abc");
   String s3="abc";

   s1==s2
   s1.equals(s2)
   s1==s3

   3.Difference between absraction and encapsulation?
   4.What would you prefer Abstract or Interface?
   5.why string s immutable?
   6.How to prevent Override in a class?
   7.Hash map internal working?
   8.explain Polymorphism?
   9.bean lifecycle?
   10.springboot actuator?
   11.microservice architecture
   12.Exception vs Error
   13.@Controller vs @RestController
   14.Use multiple catch block in a program
   15. finally will be executed always?
   16.Arraylist vs Linkedlist
   17.Hashmap<String,Integer> hashmap=new Hashmap();
   hashmap.put("A","abc");
   hashmap.put("A","xyz");
   hashmap.get(1) //xyz
   hashmap.put(null,"abc");
   hashmap.put(null,"xyz");
   hashmap.get(null) //xyz
   18.Explain Spring security and what security u have used in ur project?
   19.http methods in Spring boot
   20. Difference between PUT and POST / PUT and PATCH

While converting from SOAP to Rest Apis how managing validation of any field
.Which database is suitable to store employee records in order while vaccinated?
.How to secure Rest Apis?
.How to create Singleton class thread safe?