INTERVIEW QUESTIONS

**CORE JAVA**

**Design Principles**

SOLID Principles

DRY Principles

KISS Principles

**Design Patterns**

Creational Design Patterns

Structural Design Patterns

Behavioural Design Patterns

**Core Java Basics**

Create custom Immutable class

Create custom Singleton class

Can we break singleton design pattern? If yes, how??

map vs flatmap in Java streams

Why Java Stream are called as Lazy loading?

Functional Interface and its types. Where are we using it??

BiPredicate function and its example.

Use of static and default methods in Functional interface.

Generics in Java. What wildcards are used in it?

Memory Management in String in Java.

**OOPS Concepts**

Runtime or Dynamic Polymorphism

Abstraction

Abstract classes vs Interface

**Multithreading**

Volatile Keyword

Executor Interface, Future and CompletableFuture and its examples

Concurrent Execution

Fail safe and Fail fast iterators and its examples. What exception is thrown in case of Fail fast iterators?

What is thread safety?

Thread Pool in java and its types.

How to execute multiple threads sequentially?

Difference b/w java.lang.Thread.join() and java.lang.Thread.yield()

Thread Life Cycle.

Why wait(), notify() and notifyAll() methods are in Object class?

**Serialization**

Transient Keyword

How to do serialization in Java and its interface?

How to block serialization in child class if parent class implements Serialization?

**Exceptional Handling**

Checked and Unchecked exceptions.

**Collections**

HashMap Implementation

Hash Collision

Difference or correlation b/w hashKey() and equals() method.

HashMap vs LinkedHashMap implementation and internal working.

Priority Queue and Blocking Queue and its internal working.

**Garbage Collection**

Garbage collection and its algorithms.

How to do garbage collection in Java.

**Data Structures**

1. Which sorting algorithm you have used?

2. What type of algorithm used in Merge Sort?

--> Divide and Conquer

2. There is a String. We have to arrange it using its anagram. Do it either using Stream API or data structure. Choose Stream API at first.

e.g., dog fog god gof god fool gof loof --> dog god god fog gof gof fool loof

--> We can use LinkedHashMap directly

**Coding Questions**

**Stream APIs**

Fetch duplicates in a list of Integers using Java Stream API

Fetch unique values in a list.

Intermediate and terminal operations in Stream API

1. There is a list of Integer array. Find duplicates in it using Stream API

--> Set<Integer> set = new HashSet<>();

--> List<Integer> duplicates = list.stream().filter(l -> !set.add(l)).collect(Collectors.toList());

**SPRING BOOT**

**Core Concepts**

How to exclude a particular package or class dependency.

Spring profiles

Lazy and Eager loading

@Primary, @Qualifier and @Required annotations

Spring Boot internal working

Caching in Spring boot. Num cache and Redis cache.

LRU and LFU in cache.

Logging in spring boot.

Any recent POC done in SpringBoot?

@ConfigurationProperties in SpringBoot

Log Tracing mechanism

NFR (Non-Functional Requirements)

Any production support you have worked on

Test Driven Design pattern

**REST Services**

How to return two different format of response like XML format or JSON format from same REST API?

HTTP Error codes

How to handle latency issue for some API in SpringBoot?

What API headers you have used??

**Junit Test**

JUnit annotations

**Exception Handling**

Exception Handling in Spring Boot

How to create custom exception class?

**Spring JPA**

How to implement Primary key and Composite key in JPA

Generation strategy in primary key.

Which Repository interface you have used?

Entity relationship in JPA

How JPA assures ACID principle?

How to handle transaction in SpringBoot?

FetchType and its multiple values and the default value

Transaction handling and its attribute

**Spring Cloud**

**Spring Reactive**

**Spring Security**

MICROSERVICES

Design Patterns

Design Principles

Core Concepts

Docker & Kubernetes

**Miscellaneous**

How to create Git CI/CD pipeline?