**JAVA Interview Questions**

**Java Fundamentals:**

**OOPs Concepts:**

1. What is difference between aggregation and composition?
2. Why Java does not support pointers?
3. Can you use this() and super() both in a constructor?
4. Can we override static method? Why?
5. What is blank final variable? Can we intialize blank final variable? If yes, How?

**Programming Fundamentals:**

1. Why String is immutable in Java and why not others? What can be done to make your own class immutable?
2. Is there any way to use an object as a key in HashMap? If yes, how?
3. Can you access non static variable in static context? Why?
4. How Exception handling is done in your current project? If a method throws NullPointerException in super class, can we override it with a method which throws RuntimeException?
5. What is Reflection in java?

**Collections:**

1. How sorting can be done on collections? Difference between Comparable & Comparator?
2. What is Hash collision in Hash Table?
3. What is the advantage of generic collection?
4. What is the difference between Iterator and ListIterator?
5. What does the hashCode() method do?
6. What is the Dictionary class?

**Multi-Threading:**

1. Difference between preemptive scheduling and time slicing?
2. How to share a variable between multiple threads.
3. How to create your own Thread pool in java?
4. How do you ensure that N thread can access N resources? How to avoid deadlocks?
5. What is shutdown hook? Why and How it is used?

**Web Services:**

1. What are the different types of web services? And their advantages over each other.
2. What is SOAP? What are the different tools that can be used? How a WSDL can be validated?
3. What is the difference between SOAP and REST web services?

**DB / SQL:**

1. What is a Stored Procedure, user defined functions or Triggers?
2. How Error Handling in Stored Procedure can be achieved?
3. What does the JDBC ResultSetMetaData interface?
4. What can be used to create our own complete DAO layer for a database (automate), may be say for basic CRUD operations.
5. How can we store and retrieve images from the database?
6. What is an index SQL? Is there any limit of non-clustered indexes on a table?
7. Write an SQL query to get third maximum salary of an employee from a table named employee\_table.

**General Awareness:**

1. When Generics was introduced in java? What are its advantages?
2. Key differences between Java 5 and onwards
3. SVN/GIT etc.
4. Build process (ANT/MAVEN)
5. Agile Methodology
6. Memory & CPU profiling techniques
7. Code Review, your primary focus areas
8. Static & Dynamic Code Analysis

**Design Patterns:**

1. List some of the design patterns in java; explain few of them with examples.
2. What is Façade or Observer or NULL Object or Strategy or MVC pattern?
3. What is Singleton pattern? How to implement your own? What are its main constraints? Is it better to make whole method synchronized or only critical section synchronized, why? (Use of Enum etc).