Mock Client Interview Topics

DBMS – DBMS Concepts and SQL
- Introduction to Databases
- Database Models
  - Relational Model
- Data Design and Normalization
- Structured Query Language and its categories
  - DDL – DML – DQL – DCL – TCL
- SELECT statement varieties with clauses
  - WHERE clause
  - GROUP BY clause
  - HAVING clause
  - ORDER BY clause
- Using Oracle built in Functions
- Joining the tables – Join variants
  - Equi and Non-Equi Joins
  - Self-Join
  - Cartesian Product
  - Outer Join
- Subqueries
- Implementing Views
- Implementing Data Integrity by using Constraints
  - Data Integrity Overview
  - Creating Constraints
  - Implementing Constraints
  - Not Null
  - Unique Key
  - Primary key
  - Check Constraints
  - Default
  - Foreign Key
- Implementing Stored Procedures and Functions

Java Basics
- Describe the features of Java
- Describe the real-world applications of Java
- Describe the Java Development Kit (JDK) and the Java Runtime Environment (JRE)
- Describe the components of a basic Java program
- Compile and execute a Java program

Working with Java Data Types
- Declare and initialize variables (including casting of primitive data types)
- Differentiate between object reference variables and primitive variables
- Develop code that uses wrapper classes such as Boolean, Double, and Integer
- Declare, instantiate, initialize and use an array

Java Flow Control
- o Branching
- o Switching
- o Looping
- o Using Foreach

Object Oriented Programming
- o Characteristics of Object-Oriented Programming
- o Classes and Objects
- o Packages
- o Constructor
- o Properties
- o Inheritance
- o Access Modifiers
- o Abstract classes and methods
- o Static, this, super and final keyword
- o Interfaces

Exception Handling
- o Checked vs. Unchecked Exceptions
- o Built in Exceptions
- o Handling Exceptions
- o Custom Exception classes
- o Throwing exceptions

Working with Selected classes from the Java API
- o Manipulate data using the StringBuilder class and its methods
- o Create and manipulate Strings
- o Using Java SE 8 Date/Time API

Generics and Collections
- o Create and use a generic class
- o Create and use List, Set and Map
- o Sorting data in collection
- o Collections Streams and Filters
- o Iterate using forEach methods of Streams and List

Building Database Applications with JDBC

- o Describe the interfaces that make up the core of the JDBC API including the Driver, Connection, Statement, and ResultSet interfaces and their relationship to provider implementations
- o Identify the components required to connect to a database using the DriverManager class including the JDBC URL
- o Submit queries and read results from the database including creating statements, returning result sets, iterating through the results, and properly closing result sets, statements, and connections