ANDROID APP DEVELOPMENT

Core Java

1. Introduction to Java

- History of Java
- Features of Java

2. Overview of Java

- OOP's Concept
- Data types and Variables
- Control Structures
- Strings,Arrays

3. Objects and Classes

- Object, Classes and Methods
- Method Overloading
- Constructors
- Object class

4. Inheritance

- Types of Inheritance
- Method Overriding
- Dynamic method dispatch

5. Packages and Interfaces

- Defining Packages
- Extending Interfaces

6. Exception Handling

- Fundamentals of Exception Handling
- Exception types
- Try and Catch and finally
- Throw ,throws
- Custom Exception

7. Inner Class and Wrapper classes

- Inner Classes
- Static Nested Classes
- Wrapper Classes
- Anonymous Inner Classes

8. String Handling

- Creating Strings
- String handling methods
- String Buffer and String Builder

9. Input and Output in Java

- Byte streams&Character streams
- File
- Serialization

10. Collections Framework

- Collection Interfaces and Classes
- Iterators
- Comparators

11. Multithreading

- Basics of java thread
- The Thread Scheduler
- Naming a thread ,Daemon thread
- Perform single /multiple task by multiple threads
- Major Thread Concepts
- Garbage Collection

12. Reflection API

- Overview of Reflection
- Use of newIntance() method and determining the class Object
- Accessing private method or member from outside the class

13. Lambda Built-in Functional Interfaces

- Use primitive versions of functional Interface
- java.util.function package
- Use binary versions of functional Interface
- Use the Unary Operator Interface

Android/Mobile Application Development

1. **Android Basics**
   - Android Overview
   - Android Environment Setup
   - Android Architecture
   - Simple Hello World Example
   - Explain Android Application Folder Structures

2. **Android User Interface**
   - Android SDK Overview
   - Explain the Application structure
   - different folders created for simple Android Application Project
   - Explain about different xml files used in Android Application
   - Explain AndroidMainifest.xml file
   - Configuring the Android Manifest File
   - Managing your App Identity
   - Registering Activities and other App Component
   - Use of Permissions
   - Other Manifest settings
   - Android UI Layout
   - Linear Layout
   - Grid Layout
   - Relative Layout
   - Frame Layout
   - Android UI Controls
   - Text View
   - Edit Text
   - Auto Complete Text View
   - Button
   - Image Button
   - Check Box
   - Toggle Button
   - Radio Button
   - Progress Bar
   - Spinner
   - Time Picker
   - Date Picker

3. **Android Advanced Concepts**
   - Use of Camera
   - Use of Bluetooth

Some Useful Examples

- How you can make your app to support multiple devices
- Android Best Practices 25
- Android styles
- Use of Styles
- Style Inheritance
- Android Themes
- Explain how to create Custom Component.
- Drag and Drop
- Drawing and working with Animation
- Drawing on the Screen
- Working with Canvas and Paints
- Working with Text
- Working with Bitmaps
- Working with Shapes
- Working with Animation
- Android Data Storage API
- Storing data using SQLLite Storage API
- Working with File and Directories
- Sharing Data between Application
- Android Built-In Content Providers
- Modifying Content Providers
- Enhancing Applications by using Content Providers
- Make your application to Act as a Content Provider.
- Location Based Services
- Use of GPS
- Geocoding Locations
- Mapping Locations
- Android Multimedia API
- Working with Images
- Working with Videos
- Working with Audio
- Android Telephony API
- Sending SMS
- Making and Receiving Phone Call
- Sending Email