CODOJO

Course Overview: Java & Android App Development

Phase 1: Core Java Programming (Sessions 1-45)

1. Java Basics (Sessions 1-9)

- Introduction to Java, IDE setup, and writing the first program.
- Variables, data types, and operators.
- Input/Output in Java (Scanner class).
- Conditional statements and loops (if-else, for, while).

S**imple Projects**:

- Create a number guessing game.
- Write a program to display a multiplication table for a number.

2. Object-Oriented Programming in Java (Sessions 10-18)

- Introduction to OOP concepts: Classes, Objects, and Methods.
- Encapsulation, Inheritance, and Polymorphism.
- Access modifiers and basic static methods.

Simple Projects:

- Create a program to manage a school timetable.
- Build a calculator for basic arithmetic operations using OOP.

3. Collections Framework & Advanced Java Basics (Sessions 19-24)

- Arrays, ArrayList, and HashMap basics.
- Iterators and simple data manipulation.
- Exception handling introduction.

Simple Projects:

- Create a name organizer that sorts a list of student names.
- Develop a program to count the frequency of words in a paragraph.

4. Introduction to JavaFX for GUI Development (Sessions 25-30)

- Basics of JavaFX: Stage, Scene, and basic controls.

- Event handling (e.g., buttons and text fields).

- Creating forms and simple interfaces.

Simple Projects:

- Build a student registration form.

- Create a simple quiz app with JavaFX.

5. Java Advanced Topics & Integration (Sessions 31-45)

- File handling for saving and reading data.

- Basic threading concepts.

- Working with small APIs using HTTP requests.

- Plan and create a complete console-based or simple GUI project.

Simple Projects:

- Develop a mini library system to save and display book details.

- Create a weather information app using a simple API.

- Build a student score tracker that stores names and grades.

Phase 2: Android App Development (Sessions 46-90)

1. Android Basics & UI Design (Sessions 46-51)

- Setting up Android Studio and creating the first app.

- Layouts (Linear, Relative) and working with views (TextView, Button).

- Event handling basics for buttons and user input.

Simple Projects:

- Create a "Hello World" app with a fun background.

- Develop a simple age calculator app where users enter their birth year.

2. App Interaction & Navigation (Sessions 52-60)

- Using Intents to navigate between screens.

- RecyclerView basics for displaying lists.

- Handling user inputs with forms.

Simple Projects:

- Create a basic color changer app where users pick colors from a list.

3. Data Persistence & APIs (Sessions 61-70)

- Simple use of SQLite for storing small amounts of app data.

- Fetching data from APIs and displaying it in the app.

Simple Projects:

- Develop a favorite quotes app where students can save and view quotes.

- Create a dictionary app that fetches word meanings from an API.

4. Advanced Topics in Android Development (Sessions 71-80)

- Firebase integration for simple login systems.

- Push notifications for reminders.

- Preparing and publishing an app on the Play Store.

Simple Projects:

- Create a login system for a school app with Firebase authentication.

- Build a birthday reminder app that sends notifications.

5. Capstone Project for App Development (Sessions 81-90)

- Plan, design, and develop a complete Android app.

Simple Project: -

- Build a school announcements app where teachers can post updates.

- Create a study timer app to help students focus on their tasks.

The Codojo Promise

Kids who do well in coding, do much better at school