1. Introduction to Flutter

- **What is Flutter?**
  - Overview of Flutter
  - Benefits of using Flutter
  - Flutter architecture
- **Setting Up the Environment**
  - Installing Flutter SDK
  - Setting up Android Studio and VS Code
  - Running your first Flutter app

2. Dart Programming Basics

- **Introduction to Dart**
  - Overview of Dart language
  - Setting up Dart environment
  - Running Dart programs
- **Dart Basics**
  - Variables and Data Types
  - Control Flow Statements (if, else, switch)
  - Loops (for, while, do-while)
- **Functions and Collections**
  - Functions and Methods
  - Lists, Sets, and Maps
- **Object-Oriented Programming in Dart**
  - Classes and Objects
  - Inheritance
  - Interfaces and Abstract Classes
  - Mixins and Extensions

3. Flutter Basics

- **Widgets and the Widget Tree**
  - Understanding Widgets
  - Stateless vs Stateful Widgets
  - Basic Widgets: Text, Image, Container, Row, Column
- **Building Layouts**
  - Using Layout Widgets: Stack, List View, Grid View

- ○ Implementing Custom Widgets
- **User Interaction**
  - ○ Handling User Input with Text Field
  - ○ Buttons: Elevated Button, Icon Button, Floating Action Button
  - ○ Gesture Detector and Ink Well

4. State Management

- **Understanding State Management**
  - ○ State Management Basics
  - ○ set State and Stateful Widgets
- **Using Provider for State Management**
  - ○ Setting up Provider
  - ○ Notifier and Change Notifier
  - ○ Listening to Changes

5. Navigation and Routing

- **Navigation Basics**
  - ○ Navigating Between Screens
  - ○ Named Routes
- **Advanced Navigation**
  - ○ Passing Data Between Screens
  - ○ Handling Deep Links

6. Networking and HTTP

- **Making HTTP Requests**
  - ○ Using the http Package
  - ○ GET, POST, PUT, DELETE Requests
- **JSON Handling**
  - ○ Parsing JSON
  - ○ Serializing and Deserializing JSON

7. Persistent Storage

- **Local Storage with Shared Preferences**
  - ○ Saving and Retrieving Data
- **Using SQLite for Local Database**
  - ○ Setting Up SQLite
  - ○ Performing CRUD Operations

8. Working with APIs

- **Fetching Data from APIs**
  - ○ Integrating APIs
  - ○ Displaying Data in the UI
- **Handling Errors and Loading States**

- Error Handling
- Showing Loading Indicators

9. Animations

- **Basic Animations**
  - Using the Animated Container
  - Implicit Animations
- **Advanced Animations**
  - Using Animation Controllers
  - Tween Animations
  - Hero Animations

10. Publishing Your App

- **Preparing for Release**
  - App Icons and Splash Screens
  - Building for Android and iOS
- **Publishing to App Stores**
  - Google Play Store
  - Apple App Store