

## **2024-2025: Mobile Application Development**

1. What is Android, and what are its main features?
2. What is an Activity in Android?
3. Explain the Android application lifecycle.
4. What is an Intent in Android?
5. What are the types of Intents in Android?
6. What is the difference between implicit and explicit Intents?
7. What is a Service in Android?
8. What is an Android Manifest file?
9. What is the role of Content Providers in Android?
10. What is the purpose of Broadcast Receivers in Android?
11. What is the difference between a Fragment and an Activity?
12. What is a RecyclerView in Android?
13. What are the different types of layouts in Android?
14. What is the difference between dp, sp, and px in Android?
15. How can you store data locally in an Android application?
16. What is iOS, and what are its main features?
17. What is Swift, and why is it used for iOS development?
18. What is the difference between UIView and UIViewController?
19. Explain the iOS application lifecycle.
20. What is Auto Layout in iOS, and why is it important?
21. What is Dart, and why is it used in Flutter?
22. What are the main features of Dart?
23. What is the difference between var, final, and const in Dart?
24. How do you declare a list in Dart?
25. What is a Map in Dart, and how is it used?
26. What is the purpose of the main() function in Dart?
27. What are asynchronous programming features in Dart?
28. What is the difference between Future and Stream in Dart?
29. What is a mixin in Dart, and how is it used?
30. How do you handle exceptions in Dart?
31. What is the difference between List and Set in Dart?
32. What are getters and setters in Dart?
33. What is the significance of null safety in Dart?
34. How do you define a class in Dart?
35. What are the various data types available in Dart?
36. What is the use of the 'late' keyword in Dart?
37. How do you create and use constructors in Dart?
38. What are named parameters in Dart?
39. What is the difference between synchronous and asynchronous programming?
40. How do you implement inheritance in Dart?

## 41. Flutter Basics

42. What is Flutter, and why is it popular for mobile app development?
43. What is the difference between Flutter and React Native?
44. Explain the architecture of Flutter.
45. How do you install Flutter on your system?
46. What is the first step to creating a Flutter application?
47. What is Dart, and why is it used with Flutter?
48. How do you handle null safety in Dart?
49. What are the key differences between var, final, and const in Dart?
50. Explain the use of async and await in Dart.
51. What is the difference between a List and a Map in Dart?
52. What are widgets in Flutter?
53. What is the difference between StatefulWidget and StatelessWidget?
54. Explain the concept of the widget tree in Flutter.
55. What is the purpose of the Container widget?
56. How is the Scaffold widget used in Flutter?
57. What is the difference between Row and Column widgets in Flutter?
58. How do you implement a Stack widget in Flutter?
59. What is the role of Expanded and Flexible widgets in layouts?
60. How does Flutter handle constraints in layout design?
61. What is the difference between Padding and Margin in Flutter?
62. What is state management in Flutter, and why is it important?
63. Explain the difference between setState() and Provider.
64. What is an InheritedWidget, and how is it used for state management?
65. What are the advantages of using Riverpod over Provider?
66. What is the Bloc pattern, and how does it manage state?
67. How does Flutter handle navigation between screens?
68. What is a Navigator widget, and how is it used?
69. What is the difference between push() and pushReplacement() in navigation?
70. How do you implement named routes in Flutter?
71. What are the benefits of using the go\_router package?
72. How do you write platform-specific code in Flutter for Android?
73. What is a Flutter plugin, and how is it different from a package?
74. How can you integrate Google Maps into a Flutter application?
75. What are the steps to create a splash screen in Flutter?
76. What is the role of platform channels in Flutter?
77. How do you fetch and display data from a REST API in Flutter?
78. What is the purpose of Slivers in Flutter, and how are they used?
79. How can you manage a local database in Flutter?
80. What is the role of animations in Flutter, and how do you implement them?
81. What tools are available for testing Flutter applications?
82. How do you create a "Hello World" application in Flutter?
83. How would you create a basic calculator app using Flutter?
84. How do you implement a to-do list application in Flutter with local storage?
85. How can you create a weather app in Flutter using REST APIs?
86. How do you build a login screen with validation in Flutter?

87. How would you create a registration form using Flutter and connect it to a database?
88. How do you implement a chat application in Flutter using Firebase?
89. How do you create a simple e-commerce app with product listing in Flutter?
90. How can you design a music player app in Flutter with a play/pause feature?
91. How do you create a real-time location tracker using Google Maps in Flutter?
92. How can you develop a quiz app with multiple-choice questions in Flutter?
93. How do you create a barcode or QR code scanner in Flutter?
94. How would you implement a food delivery application in Flutter with order tracking?
95. How do you create a portfolio app to showcase projects in Flutter?
96. How can you build a fitness tracking app in Flutter with step counting?
97. How would you implement a photo gallery app with grid view and image viewer in Flutter?
98. How do you create a budget management app in Flutter with data visualization charts?
99. How can you develop a hotel booking app in Flutter with a calendar for date selection?
100. How would you build a news app in Flutter using an external API for fetching articles?
101. How do you create a social media feed app in Flutter with likes and comments features?

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