Core Android

1. What is Android?
Android is an open-source operating system designed primarily for mobile devices like smartphones and tablets.

2. Who developed Android?
Android was developed by a company called Android Inc., which was later acquired by Google.

3. What programming language is commonly used for Android app development? Java
and Kotlin are the two main programming languages used for Android app development.

4. What is the Android OS version codenamed "Oreo"?
Android 8.0 is codenamed "Oreo."

5. What is the purpose of the Android Open Source Project (AOSP)? AOSP is an
initiative to maintain and provide the source code for the Android platform for anyone to use, modify, and distribute.

6. What is the "Dalvik Virtual Machine" in Android?
Dalvik VM is the predecessor of the Android Runtime (ART) and is responsible for running Android apps.

7. What is an APK in the context of Android?
An APK (Android Package) is the file format used to distribute and install apps on the Android operating system.

8. What is the "Notification Shade" in Android?
The Notification Shade is a pull-down menu that displays notifications and quick settings toggles on Android devices.

9. What does "ADB" stand for in Android development?
ADB stands for Android Debug Bridge, a command-line tool used for communication between a computer and an Android device.

10. What is the purpose of the "FragmentManager" in Android?
The FragmentManager manages fragments in an Android app, allowing for dynamic UI components and modularization.

11. What is the main function of the "Intent" in Android?
Intents are used to communicate between components (activities, services, etc.) within an Android application or between different applications.

12. What is the "Manifest" file in Android?
The AndroidManifest.xml file contains essential information about an Android app, including its components, permissions, and hardware requirements.

13. What does the term "Material Design" refer to in Android?
Material Design is a design language developed by Google that provides guidelines for creating visually appealing and consistent UI across Android devices.

14. What is the purpose of the "Layout XML" files in Android?
Layout XML files define the structure and arrangement of UI elements in an Android app's user interface.

15. What is the significance of the "R.java" file in Android development? The "R.java" file is an automatically generated resource file that provides references to all resources (layouts, images, strings, etc.) used in an Android app.

16. What is the difference between "dp" and "sp" in Android dimensions? "dp" (density-independent pixels) is used for UI layout, while "sp" (scale-independent pixels) is used for text size, considering user preferences.

17. What is the purpose of the "SQLite" database in Android?
SQLite is a lightweight and embedded database engine used to store structured data in Android apps.

18. What is the "Activity" lifecycle in Android?
The Activity lifecycle consists of various stages (such as onCreate, onResume, onPause, onDestroy) that an Android app's Activity goes through in response to user interactions and system events.

19. What is the "ViewGroup" class in Android?
ViewGroup is a base class for layouts, which are containers that hold and arrange UI elements (Views) in Android apps.

20. What is the role of "Content Providers" in Android?
Content Providers allow apps to share data with other apps, offering a standardized interface to access and manage structured data.

21. What is "Data Binding" in Android?

Data Binding is a library that allows you to bind UI components in your layout directly to data sources, reducing the need for boilerplate code.

22. What is the purpose of the "Handler" class in Android?
The Handler class is used to schedule tasks (Runnables) to be executed on a specific thread, often used for managing UI interactions.

23. What is "ViewModel" in Android Architecture Components?
ViewModel is a component designed to store and manage UI-related data, surviving configuration changes, and promoting separation of concerns in Android apps.

24. What does "AsyncTask" do in Android?
AsyncTask is a class that simplifies performing background tasks and publishing results on the UI thread, helping to manage threading in Android apps.

25. What is "Parcelable" in Android?
Parcelable is an interface that allows you to serialize and deserialize complex objects efficiently for passing between components, like activities or fragments.

26. What is "ProGuard" in Android development?
ProGuard is a tool used to shrink, optimize, and obfuscate the code in Android apps, improving performance and making reverse engineering difficult.

27. What is the "Navigation Component" in Android?
The Navigation Component is a part of Android Jetpack that simplifies navigation between different destinations (e.g., fragments or activities) in an app.

28. What is "Runtime Permissions" in Android?
Runtime Permissions are a system that requires apps to request user permission for sensitive operations like accessing the camera or location, enhancing user privacy.

29. What is "RecyclerView" in Android?
RecyclerView is a flexible and efficient UI component used to display large datasets in a scrollable list or grid format.

30. What is "Fragment" in Android?
A Fragment represents a portion of a user interface or behavior in an Activity, allowing for modular and reusable UI components.

31 What is the purpose of "Broadcast Receivers" in Android?
Broadcast Receivers allow apps to receive and respond to system-wide or app-specific broadcast events, such as battery low notifications.

32. What is "AppCompat" in Android?

AppCompat is a library that provides backward-compatible versions of UI elements, allowing modern features to work on older Android versions.

33. What is "Android Jetpack"?
Android Jetpack is a set of libraries, tools, and architectural guidance provided by Google to help developers build high-quality Android apps more easily.

34 What is "ViewBinding" in Android?
ViewBinding is a feature that generates a binding class for each XML layout file in your app, making it easier to access views directly from the code.

35. What is "ConstraintLayout" in Android?
ConstraintLayout is a flexible layout manager that allows you to create complex UI layouts with relative positioning and efficient performance.

36. What is "Vector Drawable" in Android?
Vector Drawables are graphics that can be scaled without losing quality, providing a resolution independent way to display images and icons.

37. What is "Doze" mode in Android?
Doze mode is a power-saving feature in Android that restricts background activities when the device is idle, extending battery life.

38. What is "Android Studio"?
Android Studio is the official integrated development environment (IDE) for Android app development, providing tools for coding, debugging, and designing UI.

40. What is the purpose of "Styles" and "Themes" in Android?
Styles define the appearance of UI elements, while Themes define the overall look and feel of an Android app, including colors, fonts, and styles.

42. What is "Firebase" in Android?
Firebase is a platform offered by Google that provides a set of tools and services for building and improving Android apps, including features like authentication, databases, and analytics

43. What is "Material Components" in Android?
Material Components is a library provided by Google that offers pre-designed UI components following the Material Design guidelines for consistent and attractive app interfaces.

44. What is "Dependency Injection" in Android?
Dependency Injection is a design pattern that facilitates loose coupling between components by allowing the injection of dependencies, improving code modularity and testability.

45. What is "ViewModel" in Android Architecture Components?
ViewModel is a component that stores UI-related data, preserving it during configuration changes and ensuring separation between UI and data logic.

46. What is "LiveData" in Android Architecture Components?
LiveData is an observable data holder class that enables components to automatically update when the data changes, making it easier to maintain UI consistency.

47. What is "Fragments Back Stack" in Android?
The Fragments Back Stack is a history of added fragments that allows users to navigate between different fragments using the device's back button.

48. What is "Google Play Services" on Android?
Google Play Services is a background service that provides APIs for app developers to access various Google services like maps, authentication, and notifications.

50. What is the "Binder" in Android's underlying architecture?
The Binder is a kernel-level inter-process communication (IPC) mechanism used in Android to allow different processes to communicate and share data efficiently.

51. What is the purpose of "Resource Qualifiers" in Android?
Resource qualifiers are tags added to resource directories (e.g., drawable-hdpi, layout sw600dp) to provide different resources for various device configurations like screen size and density.

52. What is "FragmentTransaction" in Android?
FragmentTransaction is an API that allows you to add, replace, or remove fragments within an Activity, managing the dynamic UI components of your app.

53. What is the "DownloadManager" in Android?
DownloadManager is a system service that handles long-running downloads, allowing apps to request downloads that continue even if the app is closed.

54. What is "Deep Linking" in Android?
Deep Linking is a technique that enables linking directly to a specific location within a mobile app, enhancing user experience by directing them to relevant content.

55. What is "LocalBroadcastManager" in Android?
LocalBroadcastManager is a utility class that allows communication between different parts of the same app using Intent-like messages, improving efficiency compared to system-wide broadcasts.

58. What is "Adaptive Icons" in Android?

Adaptive Icons are a feature that allows app icons to be displayed consistently across various device models, adjusting their shape and appearance according to system settings.

59. What is "Android NDK"?

The Android NDK (Native Development Kit) is a toolset that allows developers to write parts of their app using native languages like C and C++, providing performance benefits for certain tasks.

60. What is "Multi-window Mode" in Android?

Multi-window mode allows users to run two apps simultaneously in split-screen view, enhancing multitasking capabilities on larger devices.

61. What is "ContentResolver" in Android?

ContentResolver is a class that facilitates access to a centralized repository of data, including databases, content providers, and file systems.

62. What is "Parcelable" in Android?

Parcelable is an interface used to serialize custom objects for efficient passing between components like Activities and Fragments.

63. What is "RecyclerView.Adapter" in Android?

RecyclerView.Adapter is a class that provides data to the RecyclerView, creating and binding ViewHolders for efficient list or grid display.

64. What is "FragmentPagerAdapter" in Android?

FragmentPagerAdapter is a pager adapter that manages fragments as pages within a ViewPager, enabling swipe-based navigation between fragments.

65. What is "JobScheduler" in Android?

JobScheduler is an API that allows you to schedule background tasks to run at specific times, optimizing battery usage and network connectivity.

66. What is "App Widget" in Android?

AnswerApp Widgets are small user interface components that provide quick access to essential app functionality from the device's home screen.

67. What is "FragmentStatePagerAdapter" in Android?

FragmentStatePagerAdapter is a pager adapter that destroys and recreates fragments as needed, useful for managing a large number of fragments within a ViewPager.

68. What is "ContentProvider" in Android?

ContentProvider is a component that enables apps to share data across applications securely and consistently, following a structured interface.

69. What is "Local Data Storage" in Android?

Local data storage includes methods like SharedPreferences, SQLite databases, and files, allowing apps to store and retrieve data locally.

70. What is "HandlerThread" in Android?

HandlerThread is a class that simplifies background threading by providing a Looper and a background thread, often used for tasks that need a dedicated worker thread.

71. What is "Data Binding Library" in Android?

The Data Binding Library allows you to bind UI components in your XML layout directly to data sources in your app's architecture.

72. What is "Parcel" in Android?

Parcel is a container for a message that can be sent through an Android Binder, used for efficient inter-process communication.

73. What is "RemoteViews" in Android?

RemoteViews is a class that allows you to create and control views from another process, often used in app widgets and notifications.

74. What is "JobIntentService" in Android?

JobIntentService is a subclass of IntentService optimized for background work using the JobScheduler API, ensuring compatibility with newer Android versions.

75. What is "Looper" in Android?

Looper is a class that manages a message loop in a thread, allowing the processing of messages from the message queue.

76. What is "RecyclerView.LayoutManager" in Android?

RecyclerView.LayoutManager is responsible for positioning and arranging items within a RecyclerView, determining how items are displayed on the screen.

77. What is "Application" class in Android?

The Application class is a base class for maintaining global application state, providing a centralized place for initialization and configuration.

78. What is "Android Gradle Plugin"?

The Android Gradle Plugin is a set of tools provided by Google to build, test, and package Android apps using the Gradle build system.

79. What is "Navigation Drawer" in Android?

The Navigation Drawer is a UI pattern that provides access to navigation options through a

sliding panel, typically accessed by swiping from the edge of the screen or tapping a menu icon.