



HANDWRITTEN NOTES

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Q1

1) APK - Android Package Kit File

2) Android is a linux based OS

3) Android is developed for mobile phone, tabs, etc

4) Android is based on Java, some C & C++ libraries

5) Application Programming Interface.

Q2 Features of Android

Android is an OS developed by Google for wide range of devices such as smart phone, tabs, TV, etc.

Features & Key aspects of Android

1) Opensource : Android is built on Opensource linux Kernel i.e its code is freely available to view & customize.

2) User Interface : Android provide customizable UI to look better acc to users

3) Multitasking : Android support multitasking by allowing

multiple apps to run side by side
& switch b/w them

- 4) Notification : Android's notification system is highly customizable & allow users to receive alerts & updates
- 5) Security : Android has multi layer security including encryption & regular security updates
- 6) Customization : with widgets, wallpaper etc.
- 7) Updates : Google releases regular updates introducing new features, update, etc.
- 8) Storage : Can be scaled up & down

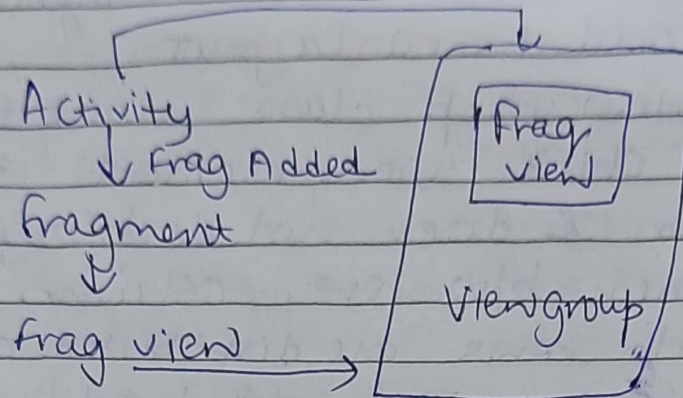
Q3 Fragment & intent are fundamental concept of Android help to build interactive modular android apps.
Fragment

In Android, Fragment is a part of activity which represent a portion of UI on screen.

Used to build flexible & modern, responsive UI for various screen sizes

Fragment exist only ~~in these lifecycle~~ inside an activity

Types
Single, list, fragment Transaction



Fragment can be added, removed, replaced while running

Intent

These are messaging mechanism in Android used for communication between diff components of application or different applications

Used to trigger action such as starting an activity, broadcasting messages, etc.

Types - explicit, Implicit

→ Start activity, communicate, get result
ex - going to Maps on click when we search someplace, intent navigate us b/w activities in same / diff applications

Q3

Table & frame layout

Table Layout

Layout container in Android system for creating grid based layout.

It is a viewgroup class used to display child view elements in rows & columns. & does not display any border lines b/w row, column/cells. views with rows are distributed evenly & often defined in XML with predefined rows & columns.

Frame Layout

Layout container in android for displaying a single view / layout at a time.

It holds a particular area of screen that is shown on top in z-order. Used for dynamic & fluid vls.

<u>Table layout</u>	<u>Frame layout</u>
→ Grid Based layout	Overlay Layout
→ Rows & cols	Stacked view
→ Distribute child view evenly	No such distribution
→ Less flexible	More
→ Used in XML	Used in prog
→ Fixed layout	Change dynamically

Q4

Basic & Picker view

Basic view

Fundamental UI element used to display & interact with content.

Include component like TextView, ImageView, Button, Checkbox, etc.

These are building blocks of App Interface.

Picker view

Specialized UI components that allow users to make selection from predefined set of options. Used for selecting dates, time, number, items from a list. Ex - DatePicker, TimePicker, etc.

BV

- Display & interact with content
- Ex - TextView, ImageView
- Suitable for simple UI
- Primarily to display info
- More Customizable

PV

- Selecting values & items from list
- Ex - ImagePicker, TimePicker
- Dynamic UI
- To carry selection process
- Less Customizable

Q5 Android S/W Stack

Also referred to as Android S/W architecture is a layered structure that defines components & Subsystems of Android OS.

It forms foundation for building & Running Android Apps.

Several layers are

- Linux Kernel (lowest level)
- Hardware Abstraction Layer (h/w specific)
- Native Libraries
- Android Runtime
- Android Framework
- Applications
- UI
- App Framework

Q6 Database Cursor with types

Referred to a program to fetch & process rows returned by a SQL Statement. It is essential concept to work with SQLite.

Cursor is an object that allows to retrieve & manipulate data from database query result.

Cursor allow to iterate through rows of database & access those.

Types

Implicit → also called default cursors of SQL Server.

Managed automatically by DBMS
Used in High level programming lang
uses SELECT to fetch Result.

Explicit.

Type of cursor that developer explicitly declare, open, fetch & close in app code.

Used in prog lang that interact with database using API.

Has Manual Management.

Q7

GPS

Global Positioning System is a ~~satte~~ satellite based navigation system to provide location & time of GPS enabled devices such as Android Smartphones, tabs, etc.

Role :

1) Location Determination
accurately pinpoint geographical loc of devices acc to long, latitude & altitude

2) Navigation & Map
GPS powered apps such as Google Maps

provide real time location of devices.

3) Geofencing

to define virtual boundaries / zones

4) location tracking

of vehicles, family, assets, etc.

5) weather forecasting

measure atmospheric condition, moisture etc.

Q8 Persisting data

Process of storing & preserving structured data in SQLite database on a device's storage typically within an Android application.

It is the data that we don't want to lose even if we restart the app.

Stored in non volatile memory & remain intact when turned off, until overwritten.

Common ways:

Shared Preferences, Local Database, File System.