

Android Studio

Assignment 1

classmate

Date _____
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Q. What is an Activity in Android? Explain its role in app development with an example.

→ An activity is a single screen in an Android app like a page in a website. It is where the user interacts with the app. For example, in a messaging app, one activity shows the chat list, and another shows the chat window.

Ex-
public class MainActivity extends AppCompatActivity {
 @Override
 protected void onCreate(Bundle savedInstanceState) {
 super.onCreate(savedInstanceState);
 setContentView(R.layout.activity_main);
 }
}

Here, Main Activity is an Activity that loads the layout file activity_main.xml.

Q. Write the basic steps to create an Activity using XML layout and Java/Kotlin code.

→ Steps to create an Activity:

- i) Create XML layout: Design the screen (e.g., activity_main.xml).
- ii) Create Java/Kotlin file: Write logic (e.g., MainActivity.java).

(iii) Link XML to Activity: Use `setContentView(R.layout.activity_main)` inside `onCreate()`.

(iv) Register in Manifest: Add the Activity in `AndroidManifest.xml`.

Ex XML

`<TextView android:text="Hello!" />`

Java

`SetContentView(R.layout.activity_main);`

Q.3. What is Intent in Android? Mention its types with one use case for each.

→ An Intent is used to start another activity or perform an action. It tells android what to do.

Types:

(i) Explicit Intent: Opens a specific activity.

Example: Open Second Activity from Main Activity.

Java

`Intent i = new Intent(this, SecondActivity.class);`

`startActivity(i);`

`startActivity(i);`

(ii) Implicit Intent: Asks Android to perform a general action (e.g., search, edit, open, etc.).

Example: Open a web page.

Java

`Intent (Intent.ACTION_VIEW,`

`Uri.parse("https://google.com"));`

`startActivity(i);`

Q. 4. Differentiate between Implicit and Explicit intents with simple examples.

<u>Feature</u>	<u>Explicit Intent</u>	<u>Implicit Intent</u>
Purpose	Open a specific activity in your app.	Perform an action using another app.
Example	new Intent(this, SecondActivity.class);	new Intent(Intent.ACTION_VIEW, Uri.parse("https://google.com"));
Code		
Use Case	Move from one screen to another. Also, edit text, read or add numbers.	Show text, open maps, or call a number.

Q. 5. What are UI components in Android?

Name any four common components and their use.

→ UI components are elements used to build the app interface. It's treated as a class. They allow user to see and interact with the app.

Common components in android are:

- Textview - Displays text.
- Edittext - Allows user input.
- Button - Performs an action when clicked.
- Image view - Shows images.