

AgeCalci - Android Project Explanation & Viva Guide

1. MainActivity.kt (Kotlin Logic)

This is the main logic file written in Kotlin. It contains the code to:

- Accept user's birth year input.
- Validate the input (check if it's empty, not a number, or a future year).
- Calculate the user's age based on the current year.
- Display the result on the screen.

Key Components:

- EditText: For user to input birth year.
- Button: To trigger the age calculation.
- TextView: To show the calculated age.
- Calendar: To get the current year dynamically.
- Toast: To show error messages to user.

Expected Viva Questions:

Q1: What does setContentView() do?

A1: It sets the layout XML file that this activity will use.

Q2: Why do we use Calendar.getInstance().get(Calendar.YEAR)?

A2: To get the current year at runtime.

Q3: What is Toast used for?

A3: To display short popup messages to the user.

Q4: How is age calculated?

A4: $\text{age} = \text{currentYear} - \text{birthYear}$

2. activity_main.xml (User Interface)

This XML defines the layout of the app using a vertical LinearLayout.

Key UI Elements:

- A heading TextView for project info (Name, Section, Roll numbers).
- Another TextView for title ("Calculate Age").
- EditText to enter birth year.
- Button labeled "CALCULATE".
- TextView to display result.

Expected Viva Questions:

Q1: Why use LinearLayout with vertical orientation?

A1: To place elements from top to bottom in a linear stack.

Q2: What does android:hint do?

A2: It shows a hint inside the EditText before user enters text.

Q3: What is the use of android:gravity="center_horizontal"?

A3: It centers the content horizontally inside the layout.

3. styles.xml (App Theme)

This file defines the custom theme used in the app.

Key Settings:

- Theme.AgeCalci inherits from Theme.AppCompat.Light.NoActionBar.
- colorPrimary, colorPrimaryDark, colorAccent customized.

Expected Viva Questions:

Q1: Why use AppCompatActivity theme?

A1: It's required for AppCompatActivity and supports backward compatibility.

Q2: Where is this theme applied?

A2: In the AndroidManifest.xml file inside <application> and <activity> tags.

Q3: What do the color items mean?

A3: They define the app's primary color, status bar color, and accent colors.

4. AndroidManifest.xml

This is the configuration file for the Android app.

Key Details:

- Declares MainActivity as the launcher activity.
- Sets the app theme to Theme.AgeCalci.
- Includes app icon, label, and backup settings.

Expected Viva Questions:

Q1: What is the use of <intent-filter>?

A1: It makes MainActivity the entry point (launch screen) of the app.

Q2: What is android:theme in <application>?

A2: It applies the custom theme to the whole app.