canadore college

Assignment-1

Android Development - MAD300

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Professor:

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Submitted By

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Android Development

Calculator App in Android with Kotlin

Introduction

Let's walk through the process of creating a simple calculator app using Android Studio, Kotlin, and the mXparser library to handle mathematical expressions.

Prerequisites

- Android Studio installed on your computer.
- Basic understanding of Kotlin and XML layout design.
- Familiarity with third-party libraries in Android.

Setup Your Project

1. **Create a New Android Project:**

   - Open Android Studio.
   - Click on "New Project".
   - Select "Empty Activity".
   - Name your project "Calculator".
   - Set "Kotlin" as the programming language.
   - Finish.

2. **Add mXparser Library:**

   - Open your build.gradle (Module: app) file.

- Add the following dependency to include the mXparser library:

implementation("org.mariuszgromada.math:MathParser.org-mXparser:4.4.2")

3. **Enable View Binding:**

- Still in the build.gradle (Module: app) file, add the following inside the android block:

viewBinding {

    enabled = true

}

- Click "Sync Now" in the bar that appears in Android Studio to ensure all configurations are updated.

Designing the UI

Modify `activity_main.xml` to create the UI for your calculator using LinearLayout and TableLayout for organizing buttons and display panels. Define the necessary colors in `res/values/colors.xml` and a style for the calculator buttons in `res/values/styles.xml`.

Implementing Functionality in Kotlin

Set up the `MainActivity`:

- Implement view binding and initialise UI components.

- Setup button click listeners to build the expression and calculate results using the mXparser library.

- Handle input correctly, especially for inserting multiplication signs next to parentheses when needed.

Running Your App

- Connect an Android device or use an emulator.

- Run the application and test the functionality of your calculator.

Demo Video

[ibsanju calculator #AndroidApp #CalculatorDemo #Kotlin #mXparser #AppDevelopment #TechDemo #ibsanju - YouTube](#)

Conclusion

Building a fully functional calculator app for Android that handles basic arithmetic operations. For further enhancement, consider adding features like complex operations, history of calculations, or even graphing capabilities.

Reference

Blog Post - **Building a Simple Calculator App in Android with Kotlin | Bharath Kumar Revana | IbsanjU - Blog**

Youtube -

https://www.youtube.com/watch?v=i5FVYe4OBKs&ab_channel=BharathK Revana