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Class: BSIT-M2 (2020-2024)

Roll No: BSIT-M2-20-48

Submitted to: Professor Jameel

Subject: Android Development

Assignment: 03

Topic: Email Auth with firebase

**Description**

1. **MainActivity.java:**
   * We will declare Member variables, TextView (textView) for displaying messages on screen, EditText (editTextEmail and editTextPassword) for email and password input through their fields, Button (buttonLogin) for initiating the login process, and FirebaseAuth (mAuth) for handling user email authentication.
   * The onCreate() method is overridden to set up the activity when it is created.
   * The setContentView() method sets the activity's layout using the "activity\_main.xml" file and displays its content.
   * Views are initialized by finding them using their unique IDs from the xml layout file.
   * An OnClickListener is specified on the Login button to handle the click event.
   * Inside the onClick() method, the email and password entered in the EditText fields are retrieved to initialize login process.
   * The signIn() method is called with the email and password as arguments / parameters.
2. **signIn() method:**
   * Email and password as parameters are passed.
   * The mAuth.signInWithEmailAndPassword() method is used to sign in the user with the given email and password.
   * An OnCompleteListener is attached to the sign-in task to handle the completion of the authentication process.
   * If the sign-in is successful, the user's information is obtained from the mAuth.getCurrentUser() method, then a success message is displayed on screen using a Toast.
   * If the sign-in fails, different exceptions are caught and error messages are displayed using a Toast.

1. **activity\_main.xml:**
   * The root element is a LinearLayout with vertical orientation and padding margin.
   * Inside the LinearLayout, there is a TextView for displaying the sign-in title, two EditText fields for email and password input, and a Button for login process.
   * Each view has an unique ID assigned to it for easy reference in the Java code.
   * The TextView has a centered alignment in the parent.

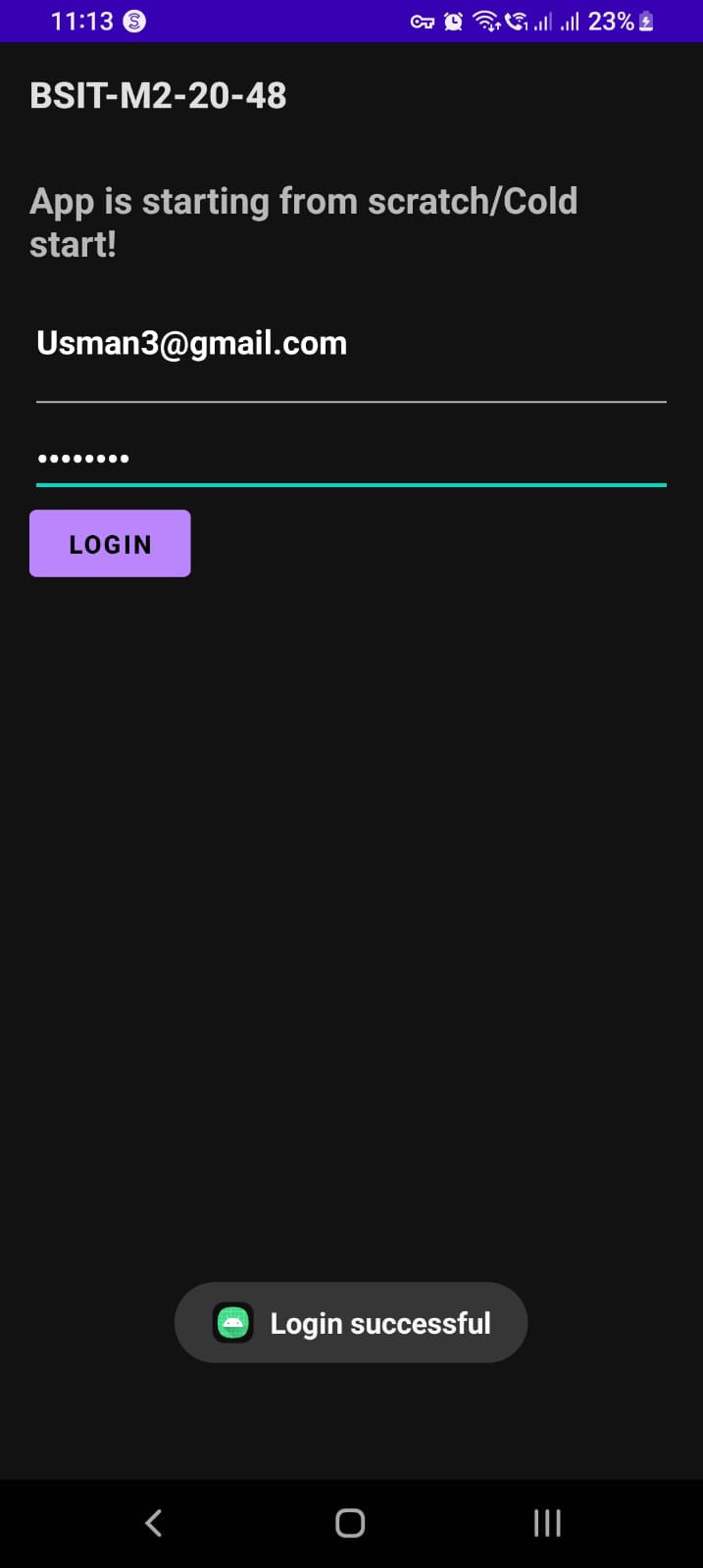
This code demonstrates a basic login functionality using Firebase Authentication in an Android application made in java. It provides a user interface for entering email and password, and it handles the sign-in process asynchronously. If the sign-in is successful, it displays a success message on screen; otherwise, it shows appropriate error messages based on the encountered exception.

**Code**

Complete code can be found on my [GitHub](https://github.com/MatrixUsman/BSITM2/tree/main/Semester%206/Android%20Devlopment/Assignment_3/Firebase%20Auth%20with%20Email/3).

Link to [APK](https://github.com/MatrixUsman/BSITM2/blob/main/Semester%206/Android%20Devlopment/Assignment_3/Firebase%20Auth%20with%20Email/Firebase_auth.apk)

[Compressed Code zip](https://github.com/MatrixUsman/BSITM2/blob/main/Semester%206/Android%20Devlopment/Assignment_3/Firebase%20Auth%20with%20Email/BSIT-M2-20-48._Email_Authzip.zip)

**Screenshots  
  
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