BATCH AND ROLL NO: S-5 42222
EXPERIMENT NO.5
TITLE: Design a mobile application to create different dialog boxes and menu (popup, option ,context)
DATE OF PERFORMANCE:
DATE OF SUBMISSION:

Title: Design a mobile application to create different dialog boxes and menu (popup, option, c o n t e x t)

Requirements:
1.Android Studio

Theory:

Introduction

In the ever-evolving field of mobile application development, the user interface plays a crucial role in shaping the user experience. Dialog boxes and menus are integral components that enhance user interactions within an application. This lab focuses on the design and implementation of a mobile application featuring different types of dialog boxes, including Popup Dialogs, Option Menus, and Context Menus.

Objective of the Lab: The primary goal of this lab is to guide you through the process of designing a mobile application with versatile user interaction components. Specifically, you will learn how to incorporate Popup Dialogs to display crucial information or prompt user actions, Option Menus for providing a set of actions within the app, and Context Menus to offer context-specific options based on user interactions.

Components of the Application: 1.

Popup Dialogs:

- Popup Dialogs are temporary overlay windows that appear on top of the current activity. ○ They are commonly used for alerts, confirmations, or presenting additional information without navigating to a new screen. ○ Popup Dialogs can be employed to offer contextual choices, providing users with quick access to specific actions.

2. **Option Menus:**
   - Option Menus provide a set of actions that users can access within the application. ○ They typically appear at the top of the screen and offer a range

of options related to the current context. o Option Menus are ideal for presenting a concise list of actions that users may need at any point in the application.

3. **Context Menus:**
   - Context Menus are dynamic menus that appear when a user long-presses on a specific UI element, providing context-specific actions.
   - They are useful for offering relevant options based on the user's current interaction.

Lab Prerequisites:

- Basic understanding of mobile application development concepts.
- Familiarity with the chosen development environment (e.g., Android Studio).
- Prior knowledge of programming languages such as Java (for Android).

Steps:

Step 1: Set Up Your Development Environment

- Ensure that you have Android Studio installed and configured on your machine.

Step 2: Create a New Project

- Open Android Studio and create a new project.
- Choose an appropriate project template, such as "Empty Activity" or "Basic Activity."

Step 3: Design the Main Activity Layout

- Open the XML layout file associated with your main activity (e.g., activity_main.xml).
- Design the layout with relevant UI elements for triggering different types of dialog boxes and Popup Menus.

Step 4: Implement the Java Code • Open the Java file associated with your main activity (e.g., MainActivity.java).

- Implement the logic for creating and showing Popup Dialogs, Option Menus, and Context Menus in response to user interactions.

Step 5: Implement Popup Dialogs

- Create methods for showing Popup Dialogs with different functionalities (e.g., alerts, confirmations).

- Utilize the AlertDialog.Builder class to build and display Popup Dialogs.

Step 6: Implement Option Menus

- Override the onCreateOptionsMenu method in your activity to create the Option Menu.
- Inflate the menu resource file with relevant menu items.
- Handle item selections in the onOptionsItemSelected method.

Step 7: Implement Context Menus

- Register the view or views for which you want to show the Context Menu using registerForContextMenu.
- Override the onCreateContextMenu method to define the items in the Context Menu.
- Handle item selections in the onContextItemSelected method.

Step 8: Test Your Application • Run your application on an emulator or a physical device.

- Test the functionality of Popup Dialogs, Option Menus, and Context Menus by interacting with the UI elements triggering these components.

XML Code:

1. activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
   tools:context=".MainActivity">

   <androidx.appcompat.widget.Toolbar
android:id="@+id/main_toolbar"
android:layout_width="0dp"
android:layout_height="wrap_content"
android:background="#8844EA"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintStart_toStartOf="parent"
```

```
app:layout_constraintTop_toTopOf="parent"
tools:ignore="MissingConstraints">


  </androidx.appcompat.widget.Toolbar>

  <TextView
    android:id="@+id/textview"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Long Press me"
    app:layout_constraintBottom_toBottomOf="parent"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.161" />

  <Button
    android:id="@+id/button"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginStart="7dp"
android:layout_marginTop="64dp"       android:text="Pop
Up "       app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.477"
app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textview" />

  <Button
    android:id="@+id/button2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_marginTop="60dp"
    android:text="Dialog"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.498"
app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/button" />

  <TextView
android:id="@+id/textView4"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
    android:text=""
```

```
        app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.588" />

      <TextView
    android:id="@+id/textView5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
        android:text=""
        app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.498"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/textView4"
    app:layout_constraintVertical_bias="0.156" />

    </androidx.constraintlayout.widget.ConstraintLayout>
```

2. dialog_layout.xml

```
    <?xml version="1.0" encoding="utf-8"?>
    <androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
      android:layout_height="match_parent">


      <EditText
    android:id="@+id/editTextTextPassword"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"        android:hint="Password"
    android:inputType="textPassword"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.497"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.38" />
```

```
  <EditText       android:id="@+id/editTextText"
android:layout_width="wrap_content"
android:layout_height="wrap_content"       android:ems="10"
android:hint="Username"       android:inputType="text"
app:layout_constraintBottom_toTopOf="@+id/editTextTextPassword"
app:layout_constraintEnd_toEndOf="parent"
app:layout_constraintHorizontal_bias="0.497"
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toTopOf="parent"
app:layout_constraintVertical_bias="0.675" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

3. **contextmenu.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">

  <item
    android:id="@+id/item1"
android:title="Share"/>
  <item
    android:id="@+id/item2"
    android:title="Delete"/>

</menu>
```

4. **optionmenu.xml**

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
  <item android:id="@+id/optionitem1"
  android:title="View Profile"/>
```

```
   <item android:id="@+id/optionitem2"
android:title="Chat Theme"/>    <item
android:id="@+id/optionitem3"
      android:title="Search"/>

   <item android:id="@+id/optionitem4"
android:title="New group"/>    <item
android:id="@+id/optionitem5"
android:title="Linked Devices"/>
<item android:id="@+id/optionitem6"
android:title="Settings"/>


</menu>
```

5. popupmenu.xml

```
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
 <item
   android:id="@+id/java"
   android:title="Java" />

<item android:id="@+id/kotlin"
android:title="Kotlin" /> <item
android:id="@+id/android"
android:title="Android" />

<item android:id="@+id/react_native"
android:title="React Native" />
</menu>
```

Java Code:

1. Example_Dialog.java

```
package com.example.myapplication_expt_5;
import android.app.AlertDialog; import
android.app.Dialog; import
android.content.Context; import
android.content.DialogInterface; import
```

```
android.os.Bundle; import
android.view.LayoutInflater; import
android.view.View;
import android.widget.EditText;

import androidx.annotation.NonNull; import
androidx.annotation.Nullable;
import androidx.appcompat.app.AppCompatDialogFragment;


public class Example_Dialog extends AppCompatDialogFragment {

   private EditText Username;
   private EditText Password;

   private ExampleDialogListener listener;

   @NonNull
   @Override

   public Dialog onCreateDialog(@Nullable Bundle savedInstanceState) {
      AlertDialog.Builder builder = new
AlertDialog.Builder(getActivity());

      LayoutInflater inflater = getActivity().getLayoutInflater();
      View view = inflater.inflate(R.layout.dialog_layout,null);
      builder.setView(view)
            .setTitle("Login")
            .setNegativeButton("cancel", new
DialogInterface.OnClickListener() {
               @Override
               public void onClick(DialogInterface dialog, int which) {

               }
            }).setPositiveButton("OK", new
DialogInterface.OnClickListener() {
               @Override                public void
onClick(DialogInterface dialog, int which) {                String
username = Username.getText().toString();                String
password = Password.getText().toString();
listener.applyTexts(username,password);
               }
            });
```

```
        Username = view.findViewById(R.id.editTextText);
Password = view.findViewById(R.id.editTextTextPassword);
return builder.create();
   }

   @Override
   public void onAttach(@NonNull Context context) {
super.onAttach(context);
      listener =(ExampleDialogListener) context;
   }

   public interface ExampleDialogListener{
      void applyTexts(String username,String password);

   }
}
```

2. MainActivity.java

```
package com.example.myapplication_expt_5;

//package com.example.expt5;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

import android.app.Dialog;
import android.os.Bundle;

import android.view.ContextMenu;
import android.view.Menu; import
android.view.MenuInflater; import
android.view.MenuItem; import
android.view.View; import
android.widget.Button; import
android.widget.PopupMenu;
import android.widget.TextView;
import android.widget.Toast;




public class MainActivity extends AppCompatActivity  implements
Example_Dialog.ExampleDialogListener{
   Button btn,dialogbtn;
```

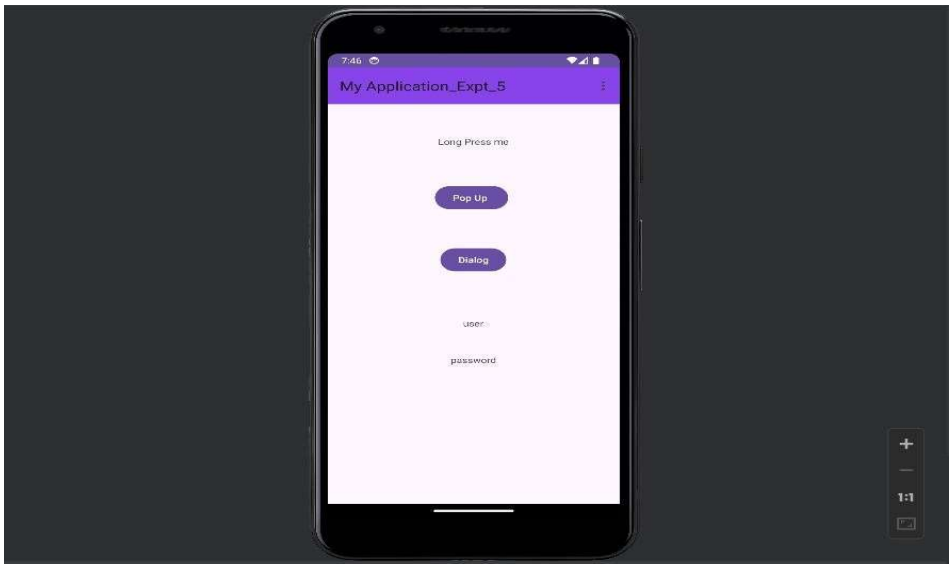
```
    Dialog mydialog;
    TextView textView1,textView2;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
        setSupportActionBar(findViewById(R.id.main_toolbar));
TextView textView = findViewById(R.id.textview);
textView1 = findViewById(R.id.textView4);        textView2 =
findViewById(R.id.textView5);
        mydialog = new Dialog(this);
btn  = findViewById(R.id.button);
        btn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                PopupMenu popupMenu = new PopupMenu(MainActivity.this,
btn);

                // Inflating popup menu from popup_menu.xml file
                popupMenu.getMenuInflater().inflate(R.menu.popup,
popupMenu.getMenu());
                popupMenu.setOnMenuItemClickListener(new
PopupMenu.OnMenuItemClickListener() {
                    @Override
                    public boolean onMenuItemClick(MenuItem menuItem) {
                        // Toast message on menu item clicked
                        Toast.makeText(MainActivity.this, "You Clicked " +
menuItem.getTitle(), Toast.LENGTH_SHORT).show();
return true;
                    }
                });
                // Showing the popup menu
                popupMenu.show();
            }
        });

        dialogbtn = findViewById(R.id.button2);
dialogbtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                Example_Dialog    exampleDialog=    new    Example_Dialog();
exampleDialog.show(getSupportFragmentManager(),"example
dialog");
            }
```

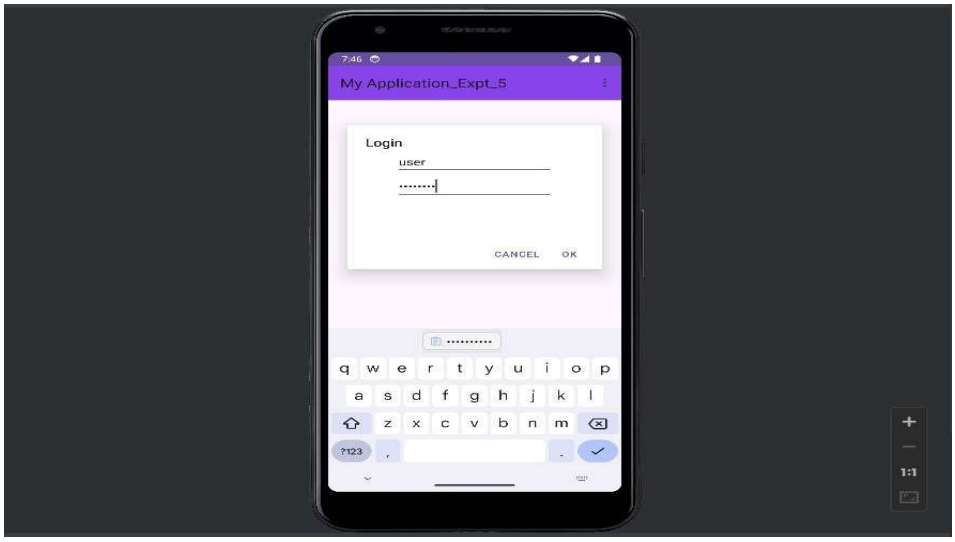
```
        });
        registerForContextMenu(textView);




    }

    @Override     public boolean
onCreateOptionsMenu(Menu menu) {
MenuInflater inflater = getMenuInflater();
inflater.inflate(R.menu.optionmenu,menu);        return
true;
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
int id = item.getItemId();
        if(id == R.id.optionitem1)
        {
            Toast.makeText(this, "View Profile selected",
Toast.LENGTH_SHORT).show();
            return true;
        }
        else if(id==R.id.optionitem2) {
            Toast.makeText(this, "Chat Theme selected",
Toast.LENGTH_SHORT).show();
return true;
        }
        else if(id==R.id.optionitem4) {
            Toast.makeText(this, "New group selected",
Toast.LENGTH_SHORT).show();
return true;
        }
        else if(id==R.id.optionitem3) {
            Toast.makeText(this, "Search selected",
Toast.LENGTH_SHORT).show();
return true;
        }
        else if(id==R.id.optionitem5) {
            Toast.makeText(this, "Linked devices selected",
Toast.LENGTH_SHORT).show();
            return true;
        }
        else if(id==R.id.optionitem6) {
```

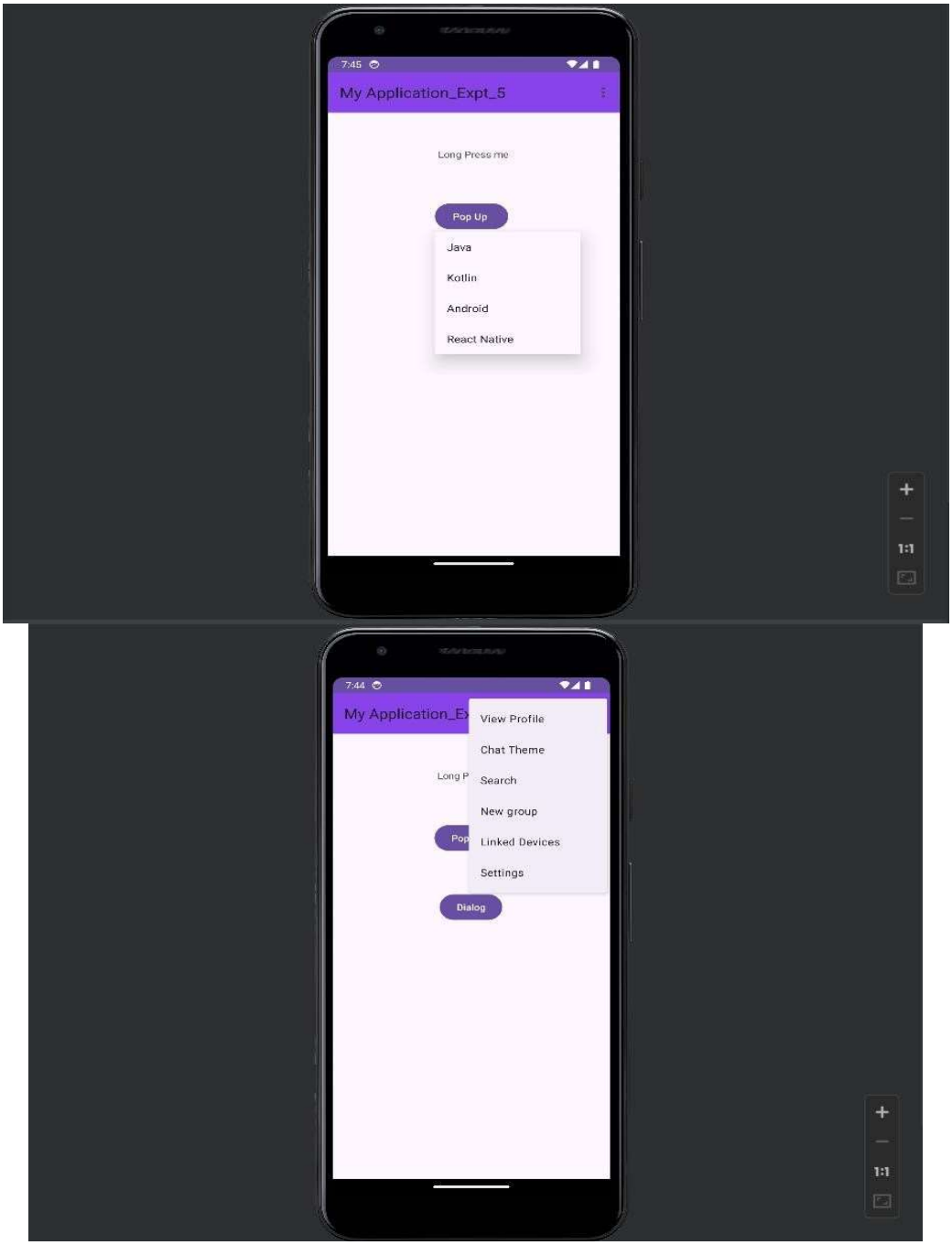
```
            Toast.makeText(this, "Settings selected",
Toast.LENGTH_SHORT).show();
            return true;
        }
else {
            return super.onOptionsItemSelected(item);
        }
    }


    @Override
    public void onCreateContextMenu(ContextMenu menu, View v,
ContextMenu.ContextMenuInfo menuInfo) {
super.onCreateContextMenu(menu, v, menuInfo);
        MenuInflater inflater = getMenuInflater();

        inflater.inflate(R.menu.contextmenu,menu);
    }

    @Override
    public boolean onContextItemSelected(@NonNull MenuItem item) {

        int id = item.getItemId();
        if(id == R.id.item1)
        {
            Toast.makeText(this, "Share selected",
Toast.LENGTH_SHORT).show();
            return true;
        }
        else if(id==R.id.item2) {
            Toast.makeText(this, "Delete selected",
Toast.LENGTH_SHORT).show();
return true;
        }
else {

            return super.onContextItemSelected(item);
        }
    }

    @Override
    public void applyTexts(String username, String password) {
textView1.setText(username);
        textView2.setText(password);
    }
```

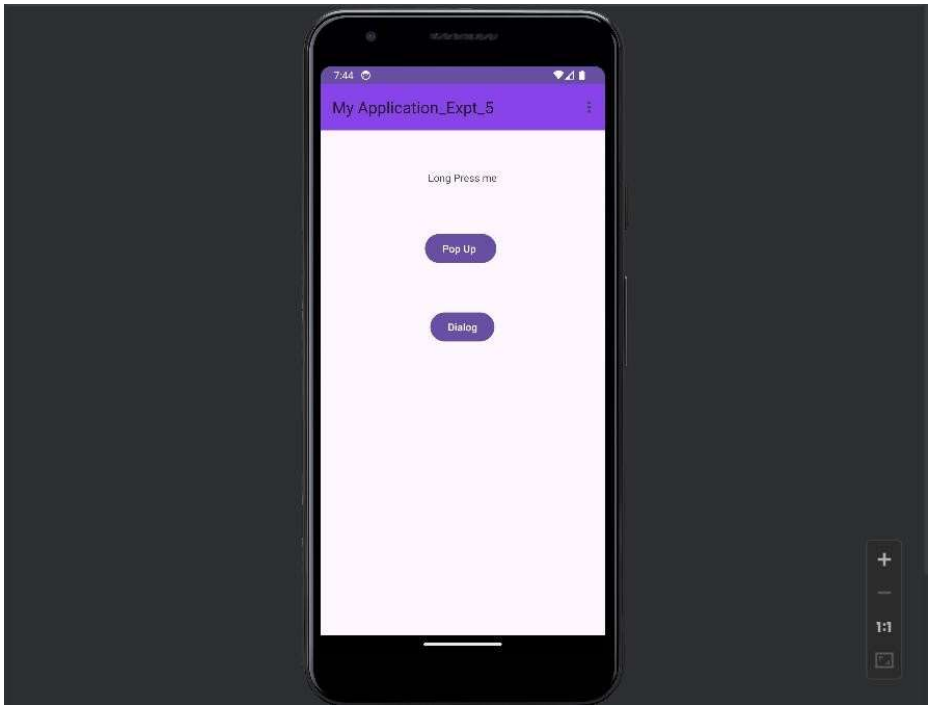
}

Output:


7:46
My Application_Expt_5
Long Press me
Pop Up
Dialog
user
password
1:1


7:46
My Application_Expt_5
Login
user
CANCEL
OK
1:1


7:45
My Application_Expt_5
Long Press me
Pop Up
Java
Kotlin
Android
React Native
1:1
7:44
My Application_Ex
View Profile
Chat Theme
Search
New group
Linked Devices
Settings
Dialog
1:1



Conclusion:

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