EXP 5

activity_main.xml

```xml
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:padding="16dp"
    tools:context=".MainActivity">
    <Button
        android:id="@+id/btnPopup"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Show Popup Dialog"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="50dp"/>
    <Button
        android:id="@+id/btnOption"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Show Option Menu"
        android:layout_below="@id/btnPopup"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="20dp"/>
    <Button
        android:id="@+id/btnContext"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Show Context Menu"
        android:layout_below="@id/btnOption"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="20dp"/>
</RelativeLayout>
```

popup_dialog.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="vertical">
<TextView
```

```xml
android:id="@+id/textPopup"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="This is a Popup Dialog"
android:padding="16dp"
android:textSize="18sp"
android:textColor="@android:color/black"
android:gravity="center"/>
<Button
android:id="@+id/btnClosePopup"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:text="Close"/>
    </LinearLayout>
```

MainActivity.java

```java
package com.example.exp5_final;

import android.os.Bundle;
import android.view.ContextMenu;
import android.view.MenuItem;
import android.view.View;
import android.widget.Button;
import android.widget.PopupMenu;
import android.widget.Toast;
import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;
public class MainActivity extends AppCompatActivity {
    private Button btnPopup, btnOption, btnContext;
    @Override

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        btnPopup = findViewById(R.id.btnPopup);
        btnOption = findViewById(R.id.btnOption);
        btnContext = findViewById(R.id.btnContext);
        btnPopup.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                showPopupDialog(v);
            }
```

```java
    });
    btnOption.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            showOptionMenu(v);
        }
    });
    registerForContextMenu(btnContext); // This line registers the button for context menu
}
private void showPopupDialog(View v) {
    AlertDialog.Builder builder = new AlertDialog.Builder(this);
    View dialogView = getLayoutInflater().inflate(R.layout.popup_dialog, null);
    builder.setView(dialogView);
    AlertDialog alertDialog = builder.create();
    alertDialog.show();
    Button btnClosePopup = dialogView.findViewById(R.id.btnClosePopup);
    btnClosePopup.setOnClickListener(new View.OnClickListener() {
        @Override
        public void onClick(View v) {
            alertDialog.dismiss();
        }
    });
}
private void showOptionMenu(View v) {
    PopupMenu popupMenu = new PopupMenu(this, v);
    popupMenu.getMenuInflater().inflate(R.menu.option_menu, popupMenu.getMenu());
    popupMenu.setOnMenuItemClickListener(new
                        PopupMenu.OnMenuItemClickListener() {
                            @Override
                            public boolean onMenuItemClick(MenuItem item) {
                                if (item.getItemId() == R.id.menu_item_1) {

                                    showToast("Option 1 selected");
                                    return true;
                                } else if (item.getItemId() == R.id.menu_item_2) {
                                    showToast("Option 2 selected");
                                    return true;
                                }
                                return false;
                            }
                        });
    popupMenu.show();
}
@Override
```

```java
    public void onCreateContextMenu(ContextMenu menu, View v,
                        ContextMenu.ContextMenuInfo menuInfo) {
        super.onCreateContextMenu(menu, v, menuInfo);
        getMenuInflater().inflate(R.menu.context_menu, menu);
    }
    public boolean onContextItemSelected(MenuItem item) {
        if (item.getItemId() == R.id.context_item_1) {
            showToast("Context item 1 selected");
            return true;
        } else if (item.getItemId() == R.id.context_item_2) {
            showToast("Context item 2 selected");
            return true;
        }
        return super.onContextItemSelected(item);
    }
    private void showToast(String message) {
        Toast.makeText(this, message, Toast.LENGTH_SHORT).show();
    }
}
```

context_menu.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
<item
    android:id="@+id/menu_item_1"
    android:title="Option 1"/>

<item
    android:id="@+id/menu_item_2"
    android:title="Option 2"/>
</menu>
```

option_menu.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    <item
        android:id="@+id/context_item_1"
        android:title="Context Item 1"/>
    <item
        android:id="@+id/context_item_2"
        android:title="Context Item 2"/>
</menu>
```