**Problem Statement:** Create an application to Share Data using 3 Activities.

**AndroidManifest.xml Manifest File:**

<?xml version="1.0" encoding="utf-8"?>

<manifest xmlns:android="http://schemas.android.com/apk/res/android"

xmlns:tools="http://schemas.android.com/tools">

<application

android:allowBackup="true"

android:dataExtractionRules="@xml/data\_extraction\_rules"

android:fullBackupContent="@xml/backup\_rules"

android:icon="@mipmap/ic\_launcher"

android:label="@string/app\_name"

android:roundIcon="@mipmap/ic\_launcher\_round"

android:supportsRtl="true"

android:theme="@style/Theme.AD\_list2"

tools:targetApi="31">

<activity

android:name=".MainActivity3"

android:exported="false">

<meta-data

android:name="android.app.lib\_name"

android:value="" />

</activity>

<activity

android:name=".MainActivity2"

android:exported="false">

<meta-data

android:name="android.app.lib\_name"

android:value="" />

</activity>

<activity

android:name=".MainActivity"

android:exported="true">

<intent-filter>

<action android:name="android.intent.action.MAIN" />

<category android:name="android.intent.category.LAUNCHER" />

</intent-filter>

<meta-data

android:name="android.app.lib\_name"

android:value="" />

</activity>

</application>

</manifest>

**activity\_main.xml Layout Resource File:**

<?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">

<TextView

android:id="@+id/textView"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Choose Operation to Peform"

android:textSize="20sp"

android:textAlignment="center"

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="0.081" />

<Spinner

android:id="@+id/spinner"

android:layout\_width="313dp"

android:layout\_height="49dp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.18" />

<Button

android:id="@+id/btn"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Next"

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="0.301" />

</androidx.constraintlayout.widget.ConstraintLayout>

**activity\_main2.xml Layout Resource File:**

<?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=".MainActivity2">

<EditText

android:id="@+id/num1"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:ems="10"

android:inputType="number"

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="0.225" />

<EditText

android:id="@+id/num2"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:ems="10"

android:inputType="number"

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="0.357" />

<TextView

android:id="@+id/txt\_dis"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Enter Values"

android:textAlignment="center"

android:textSize="20sp"

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="0.094" />

<Button

android:id="@+id/btn\_cal"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Calculate"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent" />

</androidx.constraintlayout.widget.ConstraintLayout>

**activity\_main3.xml Layout Resource File:**

<?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=".MainActivity3">

<TextView

android:id="@+id/txt\_res"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="The Result is"

android:textAlignment="center"

android:textSize="20sp"

app:layout\_constraintBottom\_toBottomOf="parent"

app:layout\_constraintEnd\_toEndOf="parent"

app:layout\_constraintStart\_toStartOf="parent"

app:layout\_constraintTop\_toTopOf="parent"

app:layout\_constraintVertical\_bias="0.409" />

<Button

android:id="@+id/btn\_home"

android:layout\_width="wrap\_content"

android:layout\_height="wrap\_content"

android:text="Home"

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="0.594" />

</androidx.constraintlayout.widget.ConstraintLayout>

**colors.xml Values Resource File:**

<?xml version="1.0" encoding="utf-8"?>

<resources>

<color name="purple\_200">#FFBB86FC</color>

<color name="purple\_500">#FF6200EE</color>

<color name="purple\_700">#FF3700B3</color>

<color name="teal\_200">#FF03DAC5</color>

<color name="teal\_700">#FF018786</color>

<color name="black">#FF000000</color>

<color name="white">#FFFFFFFF</color>

</resources>

**strings.xml Values Resource File:**

<resources>

<string name="app\_name">AD\_list2</string>

</resources>

**MainActivity.java JAVA File:**

package com.example.ad\_list2;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.AdapterView;

import android.widget.ArrayAdapter;

import android.widget.Button;

import android.widget.Spinner;

import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

String[] ops = { "Addition", "Substraction", "Multiplication", "Division" };

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main);

Button btn = findViewById(R.id.btn);

Spinner sp = findViewById(R.id.spinner);

sp.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {

@Override

public void onItemSelected(AdapterView<?> adapterView, View view, int pos, long id) {

Toast.makeText(getApplicationContext(), ops[pos], Toast.LENGTH\_LONG).show();

}

@Override

public void onNothingSelected(AdapterView<?> adapterView) {

}

});

ArrayAdapter ad = new ArrayAdapter(this, android.R.layout.simple\_spinner\_item, ops);

ad.setDropDownViewResource(android.R.layout.simple\_spinner\_dropdown\_item);

sp.setAdapter(ad);

btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

Intent intent = new Intent(getApplicationContext(), MainActivity2.class);

String op = sp.getSelectedItem().toString();

intent.putExtra("option", op);

startActivity(intent);

}

});

}

}

**MainActivity2.java JAVA File:**

package com.example.ad\_list2;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

import android.widget.TextView;

public class MainActivity2 extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main2);

TextView txt = findViewById(R.id.txt\_dis);

EditText num1 = findViewById(R.id.num1);

EditText num2 = findViewById(R.id.num2);

Button btn = findViewById(R.id.btn\_cal);

Bundle extras = getIntent().getExtras();

String op = extras.getString("option");

txt.setText("Enter Values to perform " + op);

btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

int n1 = Integer.parseInt(num1.getText().toString());

int n2 = Integer.parseInt(num2.getText().toString());

String op = extras.getString("option");

int res = calculate(n1, n2, op);

Intent intent = new Intent(getApplicationContext(), MainActivity3.class);

intent.putExtra("result", res);

startActivity(intent);

finish();

}

});

}

private int calculate(int num1, int num2, String op){

switch(op){

case "Addition" :

return num1 + num2;

case "Subtract" :

return num1 - num2;

case "Multiplication" :

return num1 \* num2;

case "Division" :

if(num2 == 0){

return 0;

} else {

return num1/num2;

}

default :

return -1;

}

}

}

**MainActivity3.java JAVA File:**

package com.example.ad\_list2;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.TextView;

public class MainActivity3 extends AppCompatActivity {

@Override

protected void onCreate(Bundle savedInstanceState) {

super.onCreate(savedInstanceState);

setContentView(R.layout.activity\_main3);

Button btn = findViewById(R.id.btn\_home);

TextView txt = findViewById(R.id.txt\_res);

Bundle extras = getIntent().getExtras();

int res = extras.getInt("result");

txt.setText("The Result is : " + res);

btn.setOnClickListener(new View.OnClickListener() {

@Override

public void onClick(View view) {

Intent intent = new Intent(getApplicationContext(), MainActivity.class);

startActivity(intent);

}

});

}

}