ListView

package com.example.listview;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.AdapterView;  
import android.widget.ArrayAdapter;  
import android.widget.ListView;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
 ListView lv;  
  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 String[] data={"Database","Python","Data Structures","Java","Operating System"};  
 lv=findViewById(R.id.*lv*);  
 ArrayAdapter<String> adapter = new ArrayAdapter<String>(this, android.R.layout.*simple\_list\_item\_1*,data);  
 lv.setAdapter(adapter);  
 lv.setOnItemClickListener(new AdapterView.OnItemClickListener() {  
 @Override  
 public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {  
 Toast.*makeText*(MainActivity.this, "You Selected: "+data[i], Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
  
 }  
}

<?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">  
  
 <ListView  
 android:id="@+id/lv"  
 android:layout\_width="382dp"  
 android:layout\_height="419dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.482"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.695" />  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="270dp"  
 android:layout\_height="35dp"  
 android:text="listview using array adapter"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.399"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.056" />  
  
 <TextView  
 android:id="@+id/textView2"  
 android:layout\_width="132dp"  
 android:layout\_height="50dp"  
 android:text="select any item"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.451"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.133" />  
</androidx.constraintlayout.widget.ConstraintLayout>

Spinner

<?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">  
  
 <Spinner  
 android:id="@+id/sp"  
 android:layout\_width="342dp"  
 android:layout\_height="66dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.737"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.271" />  
  
 <TextView  
 android:id="@+id/t1"  
 android:layout\_width="164dp"  
 android:layout\_height="42dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.603" />  
</androidx.constraintlayout.widget.ConstraintLayout>

package com.example.spinner;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.AdapterView;  
import android.widget.ArrayAdapter;  
import android.widget.Spinner;  
import android.widget.TextView;  
  
import java.util.ArrayList;  
import java.util.List;  
  
public class MainActivity extends AppCompatActivity {  
 Spinner sp;  
 TextView t1;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 sp=findViewById(R.id.*sp*);  
 t1=findViewById(R.id.*t1*);  
 List<String> items =new ArrayList<>();  
 items.add("Select");  
 items.add("Apple");  
 items.add("Mango");  
 items.add("Strawberry");  
 items.add("Grapes");  
 items.add("Orange");  
 ArrayAdapter<String> adapter = new ArrayAdapter<>(this,android.R.layout.*simple\_spinner\_item*,items);  
 adapter.setDropDownViewResource(android.R.layout.*simple\_spinner\_dropdown\_item*);  
 sp.setAdapter(adapter);  
 sp.setOnItemSelectedListener(new AdapterView.OnItemSelectedListener() {  
 @Override  
 public void onItemSelected(AdapterView<?> adapterView, View view, int i, long l) {  
 String sl=sp.getSelectedItem().toString();  
 t1.setText("Selected item: "+sl);  
 }  
  
 @Override  
 public void onNothingSelected(AdapterView<?> adapterView) {  
 t1.setText("Select an item");  
  
  
 }  
 });  
  
  
  
 }  
}

toggle

package com.example.toggle;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.widget.ImageView;  
import android.widget.ToggleButton;  
  
public class MainActivity extends AppCompatActivity {  
 ImageView img;  
 ToggleButton tb;  
  
  
  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 img=findViewById(R.id.*img*);  
 tb=findViewById(R.id.*tb*);  
  
 tb.setOnCheckedChangeListener((buttonView, isChecked) -> {  
 if (isChecked) {  
 img.setImageResource(R.drawable.*pic2*); // Replace with your second image  
 } else {  
 img.setImageResource(R.drawable.*pic1*); // Replace with your first image  
 }  
 });  
  
 }  
}

<?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">  
  
 <ImageView  
 android:id="@+id/img"  
 android:layout\_width="332dp"  
 android:layout\_height="130dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.493"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.332"  
 tools:srcCompat="@tools:sample/backgrounds/scenic" />  
  
 <ToggleButton  
 android:id="@+id/tb"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="ToggleButton"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.698" />  
</androidx.constraintlayout.widget.ConstraintLayout>

Menu

Mainactivity.java

package com.example.menu1;  
  
import android.content.Intent;  
import android.os.Bundle;  
  
import com.google.android.material.snackbar.Snackbar;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.view.View;  
  
import androidx.core.view.WindowCompat;  
import androidx.navigation.NavController;  
import androidx.navigation.Navigation;  
import androidx.navigation.ui.AppBarConfiguration;  
import androidx.navigation.ui.NavigationUI;  
  
import com.example.menu1.databinding.ActivityMainBinding;  
  
import android.view.Menu;  
import android.view.MenuItem;  
  
public class MainActivity extends AppCompatActivity {  
  
 private AppBarConfiguration appBarConfiguration;  
 private ActivityMainBinding binding;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
  
 binding = ActivityMainBinding.*inflate*(getLayoutInflater());  
 setContentView(binding.getRoot());  
  
 setSupportActionBar(binding.toolbar);  
  
 NavController navController = Navigation.*findNavController*(this, R.id.*nav\_host\_fragment\_content\_main*);  
 appBarConfiguration = new AppBarConfiguration.Builder(navController.getGraph()).build();  
 NavigationUI.*setupActionBarWithNavController*(this, navController, appBarConfiguration);  
  
 binding.fab.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Snackbar.*make*(view, "Replace with your own action", Snackbar.*LENGTH\_LONG*)  
 .setAnchorView(R.id.*fab*)  
 .setAction("Action", null).show();  
 }  
 });  
 }  
  
 @Override  
 public boolean onCreateOptionsMenu(Menu menu) {  
 // Inflate the menu; this adds items to the action bar if it is present.  
 getMenuInflater().inflate(R.menu.*menu\_main*, menu);  
 return true;  
 }  
  
 @Override  
 public boolean onOptionsItemSelected(MenuItem item) {  
 // Handle action bar item clicks here. The action bar will  
 // automatically handle clicks on the Home/Up button, so long  
 // as you specify a parent activity in AndroidManifest.xml.  
 int id = item.getItemId();  
  
 //noinspection SimplifiableIfStatement  
 if (id == R.id.*action\_settings*) {  
 return true;  
 } else if (id == R.id.*si*) {  
 Intent i=new Intent(getApplicationContext(), Simple\_interest.class);  
 startActivity(i);  
  
 } else if (id == R.id.*ci*) {  
 Intent i1=new Intent(getApplicationContext(), Compond\_interest.class);  
 startActivity(i1);  
  
 }  
  
 return super.onOptionsItemSelected(item);  
 }  
  
 @Override  
 public boolean onSupportNavigateUp() {  
 NavController navController = Navigation.*findNavController*(this, R.id.*nav\_host\_fragment\_content\_main*);  
 return NavigationUI.*navigateUp*(navController, appBarConfiguration)  
 || super.onSupportNavigateUp();  
 }  
}

<menu 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"  
 tools:context="com.example.menu1.MainActivity">  
 <item  
 android:id="@+id/action\_settings"  
 android:orderInCategory="100"  
 android:title="@string/action\_settings"  
 app:showAsAction="never" />  
 <item  
 android:id="@+id/si"  
 android:orderInCategory="101"  
 android:title="Simple interest" />  
 <item  
 android:id="@+id/ci"  
 android:orderInCategory="102"  
 android:title="Compound interest" />  
</menu>

Si.java

package com.example.menu1;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
  
public class Simple\_interest extends AppCompatActivity {  
 Button b1;  
 EditText t5,t6,t0,t8;  
 String n1,n2,n3;  
 int s\_i,p,t;  
 int r;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_simple\_interest*);  
 b1=(Button) findViewById(R.id.*b1*);  
 t5=(EditText) findViewById(R.id.*t5*);  
 t6=(EditText) findViewById(R.id.*t6*);  
 t0=(EditText) findViewById(R.id.*t0*);  
 t8=(EditText) findViewById(R.id.*t8*);  
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 n1=t5.getText().toString();  
 n2=t6.getText().toString();  
 n3=t0.getText().toString();  
 p=Integer.*parseInt*(n1);  
 r=Integer.*parseInt*(n2);  
 t=Integer.*parseInt*(n3);  
 s\_i=(p\*r\*t)/100;  
 t8.setText(String.*valueOf*(s\_i));  
  
  
  
 }  
 });  
 }  
}

<?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:id="@+id/t7"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".Simple\_interest">  
  
 <TextView  
 android:id="@+id/t1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Principal amount"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.167"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.117" />  
  
 <TextView  
 android:id="@+id/t2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Rate of interest"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.167"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.244" />  
  
 <TextView  
 android:id="@+id/t3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Time"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.167"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.382" />  
  
 <EditText  
 android:id="@+id/t6"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="text"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.925"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.253" />  
  
 <EditText  
 android:id="@+id/t0"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="text"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.92"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.374" />  
  
 <TextView  
 android:id="@+id/t4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Simple interest"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.212"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <EditText  
 android:id="@+id/t8"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="text"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.93"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.481" />  
  
 <Button  
 android:id="@+id/b1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Submit"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.699" />  
  
 <EditText  
 android:id="@+id/t5"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="text"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.92"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.12" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

ci.java

package com.example.menu1;  
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;  
  
public class Compond\_interest extends AppCompatActivity {  
 EditText t5,t6,t0,t8;  
  
 Button b1,b2;  
 double p,r,n,ci;  
 String ee1,ee2,ee3;  
 @Override protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_compond\_interest*);  
 t5=(EditText) findViewById(R.id.*t5*);  
 t6=(EditText) findViewById(R.id.*t6*);  
 t0=(EditText) findViewById(R.id.*t0*);  
 t8=(EditText) findViewById(R.id.*t8*);  
 b1=(Button) findViewById(R.id.*b1*);  
 b2=(Button) findViewById(R.id.*b2*);  
 b1.setOnClickListener(new View.OnClickListener()  
 {  
 @Override public void onClick(View view) {  
 ee1=t5.getText().toString();  
 ee2=t6.getText().toString();  
 ee3=t0.getText().toString();  
 p=Double.*parseDouble*(ee1);  
 r=Double.*parseDouble*(ee2);  
 n=Double.*parseDouble*(ee3);  
 ci=Math.*pow*((p\*(1+(r/100))),n);  
 t8.setText(String.*valueOf*(ci));  
 } });  
 b2.setOnClickListener(new View.OnClickListener() {  
 @Override public void onClick(View view) {  
 Intent i=new Intent(getApplicationContext(), MainActivity.class);  
 startActivity(i);  
 } });  
 }  
}

<?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:id="@+id/t7"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".Simple\_interest">  
  
 <TextView  
 android:id="@+id/t1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Principal amount"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.167"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.117" />  
  
 <TextView  
 android:id="@+id/t2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Rate of interest"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.167"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.244" />  
  
 <TextView  
 android:id="@+id/t3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Time"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.167"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.382" />  
  
 <EditText  
 android:id="@+id/t6"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="text"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.925"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.253" />  
  
 <EditText  
 android:id="@+id/t0"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="text"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.92"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.374" />  
  
 <TextView  
 android:id="@+id/t4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="compond interest"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.212"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <EditText  
 android:id="@+id/t8"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="text"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.93"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.481" />  
  
 <Button  
 android:id="@+id/b1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Submit"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.371"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.667" />  
  
 <EditText  
 android:id="@+id/t5"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="text"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="0.92"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.12" />  
  
 <Button  
 android:id="@+id/b2"  
 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="0.818"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.667" />  
  
</androidx.constraintlayout.widget.ConstraintLayout>

Grid

package com.example.calculator  
  
import android.os.Bundle  
import android.view.View  
import android.widget.Button  
import android.widget.TextView  
import androidx.appcompat.app.AppCompatActivity  
  
class MainActivity : AppCompatActivity() {  
  
private lateinit var resultTextView: TextView;  
private var operand1: Double? = null;.  
private var operator: String? = null;  
private var isNewOperation = true  
  
 override fun onCreate(savedInstanceState: Bundle?) {  
 super.onCreate(savedInstanceState)  
 setContentView(R.layout.activity\_main)  
  
 resultTextView = findViewById(R.id.t1)  
  
 val buttonIds = arrayOf(  
 R.id.button, R.id.b2, R.id.b3, R.id.b4,  
 R.id.b5, R.id.b6, R.id.b7, R.id.b8,  
 R.id.b9, R.id.b10, R.id.b11, R.id.b12,  
 R.id.b13, R.id.b14, R.id.b15, R.id.b16  
 );  
  
 for (id in buttonIds) {  
 findViewById<Button>(id).setOnClickListener { onButtonClick(it) }  
 }  
 }  
  
private fun onButtonClick(view: View) {  
 val button = view as Button  
 val buttonText = button.text.toString()  
  
 when (buttonText) {  
 "=" -> calculate()  
 "+" -> setOperator(buttonText)  
 "-" -> setOperator(buttonText)  
 "\*" -> setOperator(buttonText)  
 "/" -> setOperator(buttonText)  
 else -> appendToResult(buttonText)  
 }  
 }  
  
private fun appendToResult(value: String) {  
 if (isNewOperation) {  
 resultTextView.text = value  
 isNewOperation = false  
 } else {  
 resultTextView.append(value)  
 }  
 }  
  
private fun setOperator(op: String) {  
 if (operand1 == null) {  
 operand1 = resultTextView.text.toString().toDoubleOrNull()  
 operator = op  
 isNewOperation = true  
 }  
 }  
  
private fun calculate() {  
 val operand2 = resultTextView.text.toString().toDoubleOrNull()  
 if (operand1 != null && operand2 != null && operator != null) {  
 val result = when (operator) {  
 "+" -> operand1!! + operand2  
 "-" -> operand1!! - operand2  
 "\*" -> operand1!! \* operand2  
 "/" -> if (operand2 != 0.0) operand1!! / operand2 else Double.NaN  
 else -> return  
 }  
 resultTextView.text = result.toString()  
 operand1 = result  
 operator = null  
 isNewOperation = true  
 }  
 }  
 }

<?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">  
  
 <GridLayout  
 android:id="@+id/g1"  
 android:layout\_width="359dp"  
 android:layout\_height="264dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintHorizontal\_bias="1.0"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.498">  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="65dp"  
 android:layout\_row="0"  
 android:layout\_column="0"  
 android:text="1" />  
  
 <Button  
 android:id="@+id/b2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="0"  
 android:layout\_column="1"  
 android:text="2" />  
  
 <Button  
 android:id="@+id/b3"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="0"  
 android:layout\_column="2"  
 android:text="3" />  
  
 <Button  
 android:id="@+id/b4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="0"  
 android:layout\_column="3"  
 android:text="+" />  
  
 <Button  
 android:id="@+id/b5"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="1"  
 android:layout\_column="0"  
 android:text="4" />  
  
 <Button  
 android:id="@+id/b6"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="1"  
 android:layout\_column="1"  
 android:text="5" />  
  
 <Button  
 android:id="@+id/b7"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="1"  
 android:layout\_column="2"  
 android:text="6" />  
  
 <Button  
 android:id="@+id/b8"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="1"  
 android:layout\_column="3"  
 android:text="-" />  
  
 <Button  
 android:id="@+id/b9"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="2"  
 android:layout\_column="0"  
 android:text="7" />  
  
 <Button  
 android:id="@+id/b10"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="2"  
 android:layout\_column="1"  
 android:text="8" />  
  
 <Button  
 android:id="@+id/b11"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="2"  
 android:layout\_column="2"  
 android:text="9" />  
  
 <Button  
 android:id="@+id/b12"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="2"  
 android:layout\_column="3"  
 android:text="\*" />  
  
 <Button  
 android:id="@+id/b13"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="3"  
 android:layout\_column="0"  
 android:text="=" />  
  
 <Button  
 android:id="@+id/b14"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="3"  
 android:layout\_column="1"  
 android:text="0" />  
  
 <Button  
 android:id="@+id/b15"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="3"  
 android:layout\_column="2"  
 android:text="." />  
  
 <Button  
 android:id="@+id/b16"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="3"  
 android:layout\_column="3"  
 android:text="/" />  
 </GridLayout>  
  
 <TextView  
 android:id="@+id/t1"  
 android:layout\_width="84dp"  
 android:layout\_height="48dp"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent"  
 app:layout\_constraintVertical\_bias="0.15"  
 android:layout\_marginBottom="16dp"  
 android:textSize="32sp"  
 android:background="#E0E0E0"  
 android:gravity="end"  
 app:layout\_constraintBottom\_toTopOf="@id/g1"  
 />  
  
  
</androidx.constraintlayout.widget.ConstraintLayout>

Grid view

Maincativity.java

package com.example.gridview;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.app.AlertDialog;  
import android.os.Bundle;  
import android.widget.GridView;  
  
public class MainActivity extends AppCompatActivity {  
  
  
 GridView gd;  
 int[] img={R.drawable.*im1*,R.drawable.*im2*,R.drawable.*im3*};  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 gd=(GridView) findViewById(R.id.*gd*);  
 gd.setAdapter(new ImageAdapter(this, img));  
  
 gd.setOnItemClickListener((parent,view,position,id)->  
 new AlertDialog.Builder(this)  
 .setTitle("Selected Image")  
 .setMessage("You selected image "+(position +1))  
 .setPositiveButton("OK",(dialog,which)->dialog.dismiss())  
 .create()  
 .show());  
 }  
  
 }

imageadapter.java

package com.example.gridview;  
  
import android.content.Context;  
import android.view.View;  
import android.widget.BaseAdapter;  
import android.widget.GridView;  
import android.widget.ImageView;  
import android.widget.ListAdapter;  
  
public class ImageAdapter extends BaseAdapter {  
  
 Context mcontext;  
 int img[];  
 public ImageAdapter(android.content.Context context, int[] imageslist) {  
 mcontext=context;  
 img=imageslist;  
 }  
  
 public int getCount()  
 {  
 return img.length;  
 }  
  
 public Object getItem(int position)  
 {  
 return null;  
 }  
  
 public long getItemId(int position)  
 {  
 return 0;  
 }  
 public View getView(int position, View convertView, android.view.ViewGroup parent)  
 {  
 ImageView iv;  
 if(convertView == null)  
 {  
 iv = new ImageView(mcontext);  
 iv.setLayoutParams(new GridView.LayoutParams(200,200));  
 iv.setScaleType(ImageView.ScaleType.*CENTER\_CROP*);  
 }  
 else {  
 iv=(ImageView) convertView;  
 }  
 iv.setImageResource(img[position]);  
 return iv;  
 }  
  
 }

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 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">  
  
 <GridView  
 android:id="@+id/gd"  
 android:layout\_width="290dp"  
 android:layout\_height="556dp"  
 android:gravity="center"  
 android:horizontalSpacing="10dp"  
 android:numColumns="3"  
 android:verticalSpacing="10dp"  
 android:visibility="visible"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
</androidx.constraintlayout.widget.ConstraintLayout>