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PROGRAM 1 (CO1)

AIM: Design a login Form with username and password using Linear Layout and toast valid credentials.

XML

*<?***xml version="1.0" encoding="utf-8"***?>*<**LinearLayout 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"  
 android:orientation="vertical"  
 tools:context=".MainActivity"**>  
  
  
 <**EditText  
 android:id="@+id/username"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="Username"** />  
  
 <**EditText  
 android:id="@+id/password"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:hint="password"** />  
  
 <**Button  
 android:id="@+id/login"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Click"** />  
 </**LinearLayout**>

Java

**package** com.example.myapplication1;  
**import** androidx.appcompat.app.AppCompatActivity;  
**import** android.os.Bundle;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.EditText;  
**import** android.widget.Toast;  
**public class** MainActivity **extends** AppCompatActivity {  
 EditText **username**;

EditText **password**;

Button **b**;

String **name**=**"admin"**;

String **ps**=**"1234"**;

@Override

**protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);

setContentView(R.layout.***activity\_main***);

**username**=findViewById(R.id.***username***);

**password**=findViewById(R.id.***password***);

**b**=findViewById(R.id.***logig);***

**b**.setOnClickListener((**new** View.OnClickListener() {

@Override

**public void** onClick(View v) {  
 String inname = **username**.getText().toString();  
 String inpass = **password**.getText().toString();  
 **if**(inname.isEmpty() || inpass.isEmpty())  
 {  
 Toast.*makeText*(MainActivity.**this**, **"fields are empty"**, Toast.***LENGTH\_SHORT***).show();  
 }

**else** {  
 **if**(inname.equals(**name**) && inpass.equals(**ps**))  
{ Toast.*makeText*(MainActivity.**this**,**"success"**,Toast.***LENGTH\_SHORT***).show();

}

**else**

{

Toast.*makeText*(MainActivity.**this**,**"login failed"**,Toast.***LENGTH\_SHORT***).show();

}

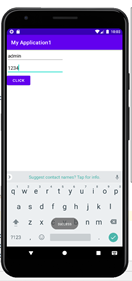
}  
}

}));

}

}

OUTPUT



Result: Program to design login Form with username and password using Linear Layout and toast valid credentials is successfully executed and output verified

PROGRAM 2 (CO1)

AIM: Write a program that demonstrates Activity Lifecycle

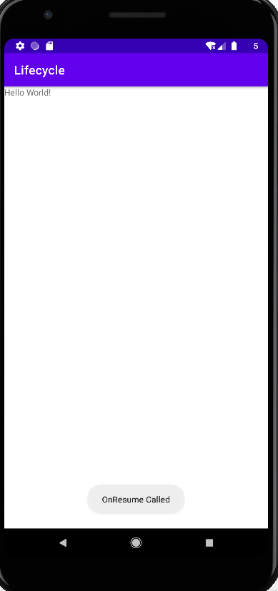
XML

*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout 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"  
 android:orientation="vertical"  
 tools:layout\_editor\_absoluteX="1dp"  
 tools:layout\_editor\_absoluteY="1dp"  
 tools:context=".MainActivity">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Hello World!"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintLeft\_toLeftOf="parent"  
 app:layout\_constraintRight\_toRightOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
</LinearLayout>

JAVA

package com.example.lifecycle;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 Toast.*makeText*(MainActivity.this,"OnCreate Called",Toast.*LENGTH\_LONG*).show();  
 }  
 @Override  
 protected void onStart(){  
 super.onStart();  
 Toast.*makeText*(MainActivity.this,"OnStart Called",Toast.*LENGTH\_SHORT*).show();  
 }  
 @Override  
 protected void onRestart(){  
 super.onRestart();  
 Toast.*makeText*(MainActivity.this,"OnRestart Called",Toast.*LENGTH\_SHORT*).show();  
 }  
 @Override  
 protected void onResume(){  
 super.onResume();  
 Toast.*makeText*(MainActivity.this,"OnResume Called",Toast.*LENGTH\_SHORT*).show();  
 }  
 @Override  
 protected void onPause(){  
 super.onPause();  
 Toast.*makeText*(MainActivity.this,"OnPause Called",Toast.*LENGTH\_SHORT*).show();  
 }  
 @Override  
 protected void onStop(){  
 super.onStop();  
 Toast.*makeText*(MainActivity.this,"OnStop Called",Toast.*LENGTH\_SHORT*).show();  
 }  
 @Override  
 protected void onDestroy(){  
 super.onDestroy();  
 Toast.*makeText*(MainActivity.this,"OnDestroy Called",Toast.*LENGTH\_SHORT*).show();  
 }  
}

OUTPUT



RESULT: Program to demonstrate Activity Lifecycle is successfully executed and output verified

PROGRAM 3 (CO1)

AIM: Implementing basic arithmetic operations of simple calculator

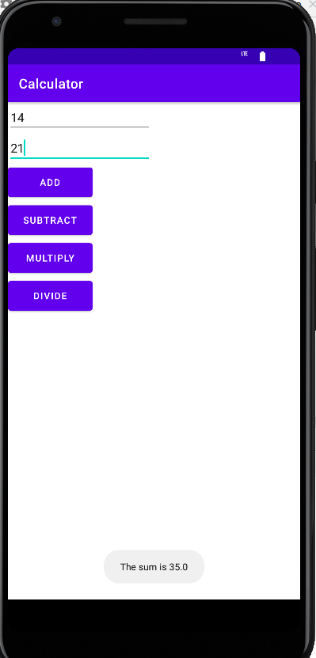
XML

*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout 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"  
 android:orientation="vertical"  
 tools:layout\_editor\_absoluteX="1dp"  
 tools:layout\_editor\_absoluteY="272dp"  
 tools:context=".MainActivity">  
  
 <EditText  
 android:id="@+id/n1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="textPersonName"/>  
  
 <EditText  
 android:id="@+id/n2"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="textPersonName"/>  
  
 <Button  
 android:id="@+id/add"  
 android:layout\_width="125dp"  
 android:layout\_height="56dp"  
 android:text="ADD" />  
  
 <Button  
 android:id="@+id/subtract"  
 android:layout\_width="125dp"  
 android:layout\_height="56dp"  
 android:text="SUBTRACT" />  
  
 <Button  
 android:id="@+id/multiply"  
 android:layout\_width="125dp"  
 android:layout\_height="56dp"  
 android:text="MULTIPLY" />  
  
 <Button  
 android:id="@+id/divide"  
 android:layout\_width="125dp"  
 android:layout\_height="56dp"  
 android:text="DIVIDE" />  
  
</LinearLayout>

JAVA

package com.example.calculator;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
 EditText number1;  
 EditText number2;  
 Button b1;  
 Button b2;  
 Button b3;  
 Button b4;  
 float sol=0;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 number1=findViewById(R.id.*n1*);  
 number2=findViewById(R.id.*n2*);  
 b1=findViewById(R.id.*add*);  
 b2=findViewById(R.id.*subtract*);  
 b3=findViewById(R.id.*multiply*);  
 b4=findViewById(R.id.*divide*);  
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 float a = Float.*parseFloat*(number1.getText().toString());  
 float b = Float.*parseFloat*(number2.getText().toString());  
 sol=a+b;  
 Toast.*makeText*(MainActivity.this,"The sum is " +sol ,Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
 b2.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 float a = Float.*parseFloat*(number1.getText().toString());  
 float b = Float.*parseFloat*(number2.getText().toString());  
 sol=a-b;  
 Toast.*makeText*(MainActivity.this,"The difference is " +sol,Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
 b3.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 float a =Float.*parseFloat*(number1.getText().toString());  
 float b =Float.*parseFloat*(number2.getText().toString());  
 sol=a\*b;  
 Toast.*makeText*(MainActivity.this,"The product is " +sol,Toast.*LENGTH\_SHORT*).show();  
 }  
 });  
 b4.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 float a = Float.*parseFloat*(number1.getText().toString());  
 float b = Float.*parseFloat*(number2.getText().toString());  
 sol=a/b;  
 Toast.*makeText*(MainActivity.this,"The division is " +sol,Toast.*LENGTH\_SHORT*).show();  
  
 }  
 });  
 }  
}

OUTPUT



RESULT: Program to implement basic arithmetic operations of simple calculator is successfully executed and output verified

PROGRAM 4 (CO1)

AIM: Implement validations on various UI controls

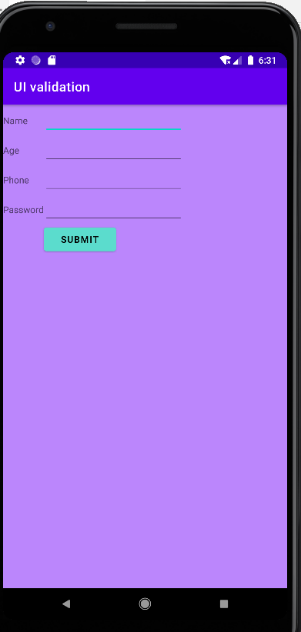
XML

*<?*xml version="1.0" encoding="utf-8"*?>*<GridLayout 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/Phone"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 android:background="@color/purple\_200"  
 tools:context=".MainActivity"  
 tools:layout\_editor\_absoluteX="1dp"  
 tools:layout\_editor\_absoluteY="1dp">  
  
 <TextView  
 android:id="@+id/Name"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="0"  
 android:layout\_column="0"  
 android:text="Name"/>  
  
 <EditText  
 android:id="@+id/name"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="0"  
 android:layout\_column="1"  
 android:ems="10"  
 android:inputType="textPersonName"/>  
  
 <TextView  
 android:id="@+id/Age"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="1"  
 android:layout\_column="0"  
 android:text="Age" />  
  
 <EditText  
 android:id="@+id/age"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="1"  
 android:layout\_column="1"  
 android:ems="10"  
 android:inputType="textPersonName"/>  
  
 <TextView  
 android:id="@+id/textView4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="2"  
 android:layout\_column="0"  
 android:text="Phone" />  
  
 <EditText  
 android:id="@+id/phone"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="2"  
 android:layout\_column="1"  
 android:ems="10"  
 android:inputType="phone" />  
  
 <TextView  
 android:id="@+id/Password"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="3"  
 android:layout\_column="0"  
 android:text="Password" />  
  
 <EditText  
 android:id="@+id/pass"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="3"  
 android:layout\_column="1"  
 android:ems="10"  
 android:inputType="textPassword" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="110dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="4"  
 android:layout\_column="1"  
 android:backgroundTint="#5BDCCD"  
 android:text="Submit"  
 android:textColor="@color/black" />  
  
</GridLayout>

JAVA

package com.example.uivalidation;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.Toast;  
  
import java.util.jar.Attributes;  
import java.util.regex.Pattern;  
  
public class MainActivity extends AppCompatActivity {  
 EditText username;  
 EditText age;  
 EditText phone;  
 EditText pass;  
 Button b1;  
 Pattern USERNAME\_PATTERN=Pattern.*compile*("^[A-Za-z]\\w{5,30}$"); *//Alphabets 6-30 letters* Pattern PASSWORD\_PATTERN =Pattern.*compile*("^" +  
 "(?=.\*[@#$%^&+=])" + *// at least 1 special character* "(?=\\S+$)" + *// no white spaces* ".{4,}" + *// at least 4 characters* "$");  
 Pattern AGE\_PATTERN= Pattern.*compile*("^" +  
  
 "(?=\\S+$)" + *// no white spaces* "[0-9]{1,2}" + *// 2 numbers* "$");  
 Pattern PHONE\_PATTERN=Pattern.*compile*("^(0|91)?[7-9][0-9]{9}$"); *//Begins with 0 or 91,then 7 or 8 or 9,then contains 9 digits* @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 username=findViewById(R.id.*name*);  
 age=findViewById(R.id.*age*);  
 phone=findViewById(R.id.*phone*);  
 pass=findViewById(R.id.*pass*);  
 b1=findViewById(R.id.*button*);  
  
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 String inpName=username.getText().toString();  
 String inpAge=age.getText().toString();  
 String inpPh=phone.getText().toString();  
 String inpPass=pass.getText().toString();  
  
  
 if(inpName.isEmpty()){  
 Toast.*makeText*(MainActivity.this, "Name Field is Empty", Toast.*LENGTH\_SHORT*).show();  
 }  
 if(inpAge.isEmpty()){  
 Toast.*makeText*(MainActivity.this, "Age field is Empty", Toast.*LENGTH\_SHORT*).show();  
 }  
 if(inpPh.isEmpty()){  
 Toast.*makeText*(MainActivity.this, "Phone field is Empty", Toast.*LENGTH\_SHORT*).show();  
 }  
 if(inpPass.isEmpty()){  
 Toast.*makeText*(MainActivity.this, "Pass field is Empty", Toast.*LENGTH\_SHORT*).show();  
 }  
 if (!USERNAME\_PATTERN.matcher(inpName).matches()){  
 username.setError("Enter alphabets [6-30 characters]");  
 }  
 if (!AGE\_PATTERN.matcher(inpAge).matches()) {  
 age.setError("Incorrect Age");  
 }  
 if (!PHONE\_PATTERN.matcher(inpPh).matches()){  
 phone.setError("Contains only 10 digits");  
 }  
 if (!PASSWORD\_PATTERN.matcher(inpPass).matches()){  
 pass.setError("Password is too weak");  
 }  
 else{  
 Toast.*makeText*(MainActivity.this, "Success", Toast.*LENGTH\_SHORT*).show();  
  
 }  
 }  
 });  
  
 }  
}

OUTPUT



RESULT : Program to implement validations on various UI controls successfully executed and output verified

PROGRAM 5 (C02)

AIM : Design a registration activity and store registration details in local memory of phone using SharedPreferences

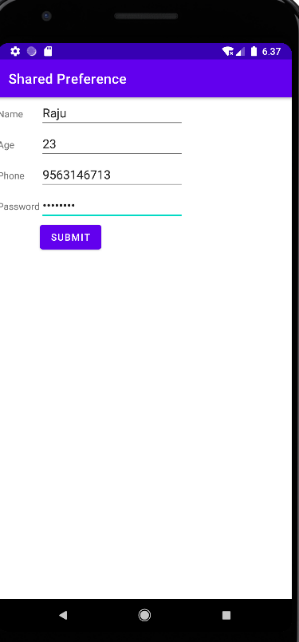
XML

*<?*xml version="1.0" encoding="utf-8"*?>*<GridLayout 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/Phone"  
 android:layout\_width="409dp"  
 android:layout\_height="729dp"  
 android:orientation="vertical"  
 tools:context=".MainActivity"  
 tools:layout\_editor\_absoluteX="1dp"  
 tools:layout\_editor\_absoluteY="1dp">  
  
 <TextView  
 android:id="@+id/Name"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="0"  
 android:layout\_column="0"  
 android:text="Name" />  
  
 <EditText  
 android:id="@+id/name"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="0"  
 android:layout\_column="1"  
 android:ems="10"  
 android:inputType="textPersonName"/>  
  
 <TextView  
 android:id="@+id/Age"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="1"  
 android:layout\_column="0"  
 android:text="Age" />  
  
 <EditText  
 android:id="@+id/age"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="1"  
 android:layout\_column="1"  
 android:ems="10"  
 android:inputType="textPersonName"/>  
  
 <TextView  
 android:id="@+id/textView4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="2"  
 android:layout\_column="0"  
 android:text="Phone" />  
  
 <EditText  
 android:id="@+id/phone"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="2"  
 android:layout\_column="1"  
 android:ems="10"  
 android:inputType="phone" />  
  
 <TextView  
 android:id="@+id/Password"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="3"  
 android:layout\_column="0"  
 android:text="Password" />  
  
 <EditText  
 android:id="@+id/pass"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="3"  
 android:layout\_column="1"  
 android:ems="10"  
 android:inputType="textPassword" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="4"  
 android:layout\_column="1"  
 android:text="Submit" />  
  
</GridLayout>

JAVA

package com.example.sharedpreference;  
  
import android.os.Bundle;  
import android.content.SharedPreferences;  
import android.widget.EditText;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
public class MainActivity extends AppCompatActivity {  
 EditText name,pass,phn,age;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 name=(EditText)findViewById(R.id.*name*);  
 pass=(EditText)findViewById(R.id.*pass*);  
 phn=(EditText)findViewById(R.id.*phone*);  
 age=(EditText)findViewById(R.id.*age*);  
  
 }  
 public void onResume() {  
 super.onResume();  
  
 SharedPreferences sh=getSharedPreferences("sp", *MODE\_PRIVATE*);  
  
 String s1 = sh.getString("name", "");  
 String s2 = sh.getString("pass", "");  
 int ph = sh.getInt("phone", 0);  
 int a = sh.getInt("age", 0);  
  
 name.setText(s1);  
 pass.setText(s2);  
 phn.setText(String.*valueOf*(ph));  
 age.setText(String.*valueOf*(a));  
  
 }  
 public void onPause() {  
  
  
 super.onPause();  
  
 SharedPreferences sharedPreferences = getSharedPreferences("sp", *MODE\_PRIVATE*);  
 SharedPreferences.Editor sp = sharedPreferences.edit();  
  
 sp.putString("name", name.getText().toString());  
 sp.putString("pass", pass.getText().toString());  
 sp.putInt("age", Integer.*parseInt*(age.getText().toString()));  
 sp.putInt("phone", Integer.*parseInt*(phn.getText().toString()));  
 sp.commit();  
 sp.apply();  
 }  
  
}

OUTPUT



RESULT : Program to store registration using SharedPreference successfully executed and output verified

PROGRAM 6 (CO2)

AIM : Design a simple calculator using GridLayout

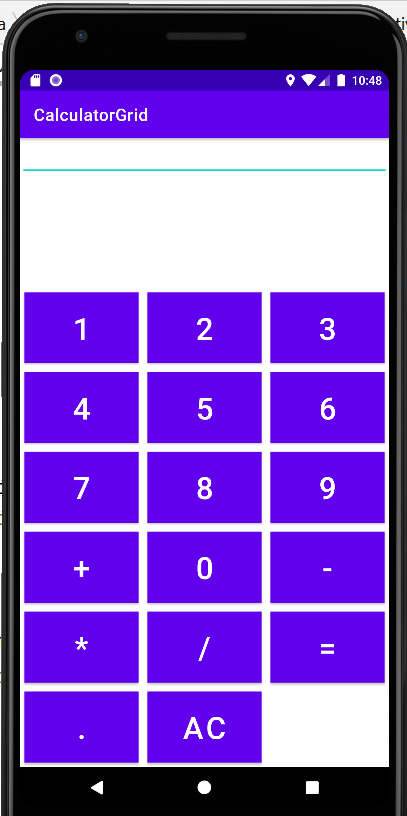
XML

*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout 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="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:orientation="vertical"  
 tools:context=".MainActivity">  
  
 <EditText  
 android:id="@+id/edittext"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:ems="10"  
 android:inputType="textPersonName"  
 android:text=" " />  
  
 <GridLayout  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="130dp"  
 android:columnCount="3"  
 android:rowCount="5">  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="1"  
 android:textSize="34sp"  
 app:iconPadding="5dp" />  
  
 <Button  
 android:id="@+id/button4"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="2"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button5"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="3"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button6"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="4"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button7"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="5"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button8"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="6"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button9"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="7"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button10"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="8"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button11"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="9"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button12"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="+"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button13"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="0"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button14"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="-"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button15"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="\*"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button16"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="/"  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button17"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="="  
 android:textSize="36sp" />  
  
 <Button  
 android:id="@+id/button18"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_rowWeight="1"  
 android:layout\_columnWeight="1"  
 android:layout\_gravity="fill"  
 android:layout\_margin="5sp"  
 android:background="#03A9F4"  
 android:text="AC"  
 android:textSize="36sp" />  
  
 </GridLayout>  
  
</LinearLayout>

JAVA

package com.example.calculator;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
  
  
public class MainActivity extends AppCompatActivity {  
 EditText editText;  
 Button b1, b2, b3, b4, b5, b6, b7, b8, b9, b0, plus, sub, mul, div, equal, ac;  
 float value1, value2;  
 boolean Addition, Subtraction, Multiplication, Division;  
  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 editText = findViewById(R.id.*edittext*);  
 b1 = findViewById(R.id.*button*);  
 b2 = findViewById(R.id.*button4*);  
 b3 = findViewById(R.id.*button5*);  
 b4 = findViewById(R.id.*button6*);  
 b5 = findViewById(R.id.*button7*);  
 b6 = findViewById(R.id.*button8*);  
 b7 = findViewById(R.id.*button9*);  
 b8 = findViewById(R.id.*button10*);  
 b9 = findViewById(R.id.*button11*);  
 b0 = findViewById(R.id.*button13*);  
 plus = findViewById(R.id.*button12*);  
 sub = findViewById(R.id.*button14*);  
 mul = findViewById(R.id.*button15*);  
 div = findViewById(R.id.*button16*);  
 equal = findViewById(R.id.*button17*);  
 ac = findViewById(R.id.*button18*);  
  
  
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "1");  
  
 }  
 });  
  
  
 b2.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "2");  
  
 }  
 });  
  
 b3.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "3");  
  
 }  
 });  
  
 b4.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "4");  
  
 }  
 });  
  
 b5.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "5");  
  
 }  
 });  
  
 b6.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "6");  
  
 }  
 });  
  
 b7.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "7");  
  
 }  
 });  
  
 b8.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "8");  
  
 }  
 });  
  
 b9.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "9");  
  
 }  
 });  
  
 b0.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText(editText.getText() + "0");  
  
 }  
 });  
  
 plus.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 if (editText == null) {  
 editText.setText("");  
 } else {  
 value1 = Float.*parseFloat*(editText.getText() + "");  
 Addition = true;  
 editText.setText(null);  
 }  
  
 }  
 });  
  
 sub.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 value1 = Float.*parseFloat*(editText.getText() + "");  
 Subtraction = true;  
 editText.setText(null);  
 }  
 });  
  
  
 mul.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 value1 = Float.*parseFloat*(editText.getText() + "");  
 Multiplication = true;  
 editText.setText(null);  
 }  
 });  
  
 div.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 value1 = Float.*parseFloat*(editText.getText() + "");  
 Division = true;  
 editText.setText(null);  
 }  
 });  
  
 equal.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 value2 = Float.*parseFloat*(editText.getText() + "");  
  
 if (Addition == true) {  
 editText.setText(value1 + value2 + "");  
 Addition = false;  
 }  
  
 if (Subtraction == true) {  
 editText.setText(value1 - value2 + "");  
 Subtraction = false;  
 }  
  
 if (Multiplication == true) {  
 editText.setText(value1 \* value2 + "");  
 Multiplication = false;  
 }  
  
 if (Division == true) {  
 editText.setText(value1 / value2 + "");  
 Division = false;  
 }  
  
 }  
 });  
 ac.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
 editText.setText("");  
 }  
 });  
  
  
 }  
}

OUTPUT



RESULT : Program to design simple calculator using GridLayout successfully executed and output verified

PROGRAM 7 (CO3)

AIM : Implement Intent to navigate between multiple activities

XML

MainActivity

*<?*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">  
  
 <Button  
 android:id="@+id/button2"  
 android:layout\_width="160dp"  
 android:layout\_height="59dp"  
 android:text="Go"  
 android:textAppearance="@style/TextAppearance.AppCompat.Display1"  
 app:layout\_constraintBottom\_toBottomOf="parent"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <LinearLayout  
 android:id="@+id/linearLayout"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical"  
 tools:layout\_editor\_absoluteX="28dp"  
 tools:layout\_editor\_absoluteY="184dp">  
  
 <TextView  
 android:id="@+id/textView3"  
 android:layout\_width="match\_parent"  
 android:layout\_height="336dp"  
 android:gravity="center"  
 android:text="First Page"  
 android:textAlignment="center"  
 android:textAppearance="@style/TextAppearance.AppCompat.Display1" />  
 </LinearLayout>  
</androidx.constraintlayout.widget.ConstraintLayout>

XML

Home

*<?*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=".Home">  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="170dp"  
 android:layout\_height="62dp"  
 android:text="Go Back"  
 android:textAppearance="@style/TextAppearance.AppCompat.Display1"  
 app:layout\_constraintBottom\_toBottomOf="@+id/linearLayout2"  
 app:layout\_constraintEnd\_toEndOf="parent"  
 app:layout\_constraintStart\_toStartOf="parent"  
 app:layout\_constraintTop\_toTopOf="parent" />  
  
 <LinearLayout  
 android:id="@+id/linearLayout2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="match\_parent"  
 android:layout\_height="341dp"  
 android:gravity="center"  
 android:text="Second Page"  
 android:textAlignment="center"  
 android:textAppearance="@style/TextAppearance.AppCompat.Display1" />  
 </LinearLayout>  
</androidx.constraintlayout.widget.ConstraintLayout>

JAVA

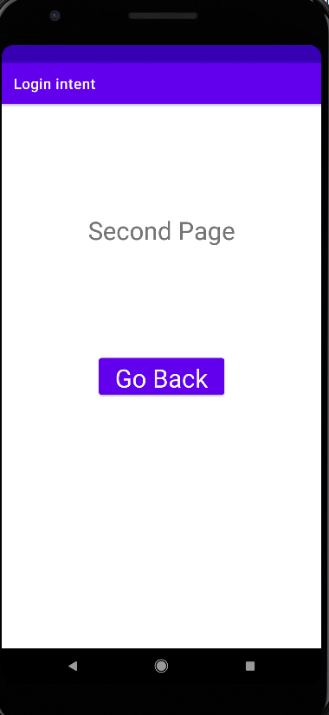
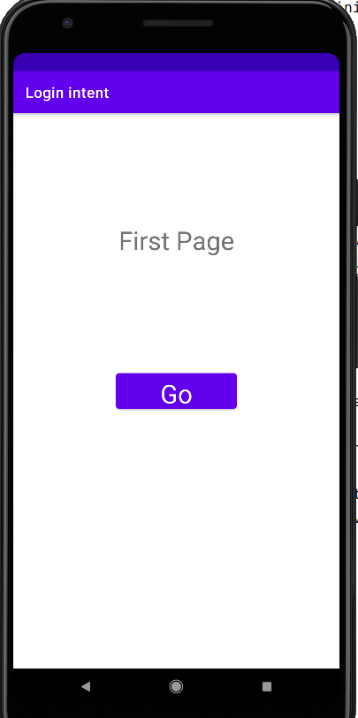
MainActivity

package com.example.loginintent;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
  
  
public class MainActivity extends AppCompatActivity {  
 Button b1;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
  
 b1 =findViewById(R.id.*button2*);  
  
 *//implement Onclick event for Explicit Intent* b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
  
 Intent intent = new Intent(getApplicationContext(), Home.class);  
 startActivity(intent);  
  
  
 }  
 });  
 }  
}

Home

package com.example.loginintent;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
  
public class Home extends AppCompatActivity {  
  
 Button b1;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_home*);  
  
 b1 = findViewById(R.id.*button*);  
  
 *//implement Onclick event for Explicit Intent* b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View v) {  
  
 Intent intent = new Intent(getApplicationContext(), MainActivity.class);  
 startActivity(intent);  
  
  
 }  
 });  
  
 }  
  
}

OUTPUT



RESULT : Program to implement Intent to navigate between multiple activities successfully executed and output verified

PROGRAM 8 (CO3)

AIM : Implement Options menu to navigate to activities

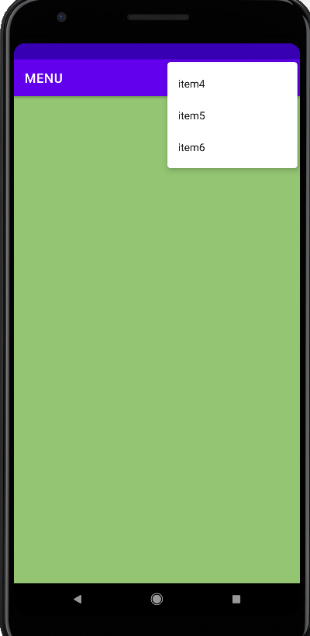
XML

*<?*xml version="1.0" encoding="utf-8"*?>*<menu xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto">  
 <item android:id="@+id/item1"  
 android:title="item1"  
 android:icon="@drawable/ic\_icon1"  
 app:showAsAction="always" />  
 <item android:id="@+id/item2"  
 android:title="item2"  
 android:icon="@drawable/ic\_icon2"  
 app:showAsAction="always" />  
 <item android:id="@+id/item3"  
 android:title="item3"  
 android:icon="@drawable/ic\_icon3"  
 app:showAsAction="always" />  
 <item android:id="@+id/item4"  
 android:title="item4"  
 app:showAsAction="never" />  
 <item android:id="@+id/item5"  
 android:title="item5"  
 app:showAsAction="never" />  
 <item android:id="@+id/item6"  
 android:title="item6"  
 app:showAsAction="never" />  
</menu>

JAVA

package com.example.menu;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
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.PopupMenu;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 }  
  
 @Override  
 public boolean onCreateOptionsMenu(Menu menu) {  
 MenuInflater inflater = getMenuInflater();  
 inflater.inflate(R.menu.*menu\_file*, menu);  
 return true;  
 }  
  
 @Override  
 public boolean onOptionsItemSelected(MenuItem item) {  
 switch (item.getItemId()) {  
 case R.id.*item1*:  
 Intent i=new Intent(getApplicationContext(),MainActivity2.class);  
 startActivity(i);  
 return true;  
 case R.id.*item2*:  
 Intent i2=new Intent(getApplicationContext(),MainActivity3.class);  
 startActivity(i2);  
 return true;  
 case R.id.*item3*:  
 Intent i3=new Intent(getApplicationContext(),MainActivity4.class);  
 startActivity(i3);  
 return true;  
 case R.id.*item4*:  
 Toast.*makeText*(MainActivity.this, "Item4 Selected", Toast.*LENGTH\_SHORT*).show();  
 case R.id.*item5*:  
 Toast.*makeText*(MainActivity.this, "Item5 Selected", Toast.*LENGTH\_SHORT*).show();  
 case R.id.*item6*:  
 Toast.*makeText*(MainActivity.this, "Item6 Selected", Toast.*LENGTH\_SHORT*).show();  
 default:  
 return super.onOptionsItemSelected(item);  
 }  
 }  
}

OUTPUT



RESULT : Program to implement options menu to navigate to activities successfully executed and output verified

PROGRAM 9 (CO5)

AIM: Create database using SQLite and perform insert operation.

XML

*<?***xml version="1.0" encoding="utf-8"***?>*<**LinearLayout  
 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:orientation="vertical"  
 tools:context=".MainActivity"**>  
  
 <**EditText  
 android:id="@+id/idEdtCourseName"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="10dp"  
 android:hint="Enter course Name"** />  
  
 <**EditText  
 android:id="@+id/idEdtCourseTracks"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="10dp"  
 android:hint="Enter Course Tracks"** />

<**EditText  
 android:id="@+id/idEdtCourseDuration"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="10dp"  
 android:hint="Enter Course Duration"** />  
  
 <**EditText  
 android:id="@+id/idEdtCourseDescription"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="10dp"  
 android:hint="Enter Course Description"** /><**Button  
 android:id="@+id/idBtnAddCourse"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_margin="10dp"  
 android:text="Add Course"  
 android:textAllCaps="false"** />  
  
</**LinearLayout**>

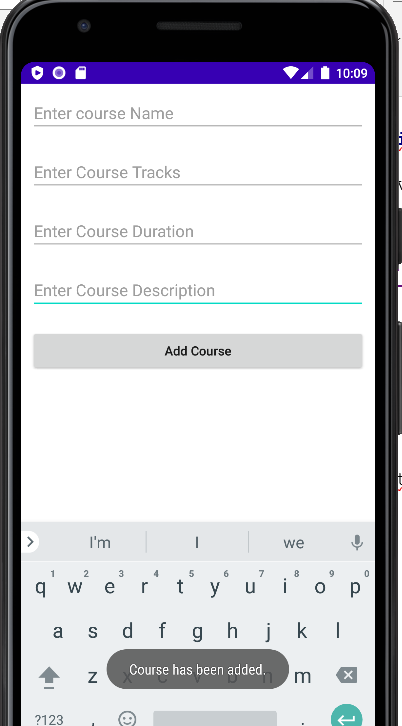
Java

**package** com.example.sqllite;  
  
**import** android.os.Bundle;  
**import** android.app.Activity;  
**import** android.view.Menu;  
**import** android.view.View;  
**import** android.widget.Button;  
**import** android.widget.EditText;  
**import** android.widget.Toast;  
  
**public class** MainActivity **extends** Activity {  
 **private** EditText **courseNameEdt**, **courseTracksEdt**, **courseDurationEdt**, **courseDescriptionEdt**;  
 **private** Button **addCourseBtn**;  
 **private** DBHandler **dbHandler**;  
  
 @Override  
 **protected void** onCreate(Bundle savedInstanceState) {  
 **super**.onCreate(savedInstanceState);  
 setContentView(R.layout.***activity\_main***);  
 **courseNameEdt** = (EditText)findViewById(R.id.***idEdtCourseName***);  
 **courseTracksEdt** = (EditText)findViewById(R.id.***idEdtCourseTracks***);  
 **courseDurationEdt** = (EditText)findViewById(R.id.***idEdtCourseDuration***);  
 **courseDescriptionEdt** =(EditText) findViewById(R.id.***idEdtCourseDescription***);  
 **addCourseBtn** = (Button)findViewById(R.id.***idBtnAddCourse***);  
  
 **dbHandler** = **new** DBHandler(MainActivity.**this**);  
**addCourseBtn**.setOnClickListener(**new** View.OnClickListener() {  
 @Override  
 **public void** onClick(View v) {  
  
 *// below line is to get data from all edit text fields.* String courseName = **courseNameEdt**.getText().toString();  
 String courseTracks = **courseTracksEdt**.getText().toString();  
 String courseDuration = **courseDurationEdt**.getText().toString();  
 String courseDescription = **courseDescriptionEdt**.getText().toString();  
  
 **if** (courseName.isEmpty() && courseTracks.isEmpty() && courseDuration.isEmpty() && courseDescription.isEmpty()) {  
 Toast.*makeText*(MainActivity.**this**, **"Please enter all the data.."**, Toast.***LENGTH\_SHORT***).show();  
 **return**;  
 }  
**dbHandler**.addNewCourse(courseName, courseDuration, courseDescription, courseTracks);  
Toast.*makeText*(MainActivity.**this**, **"Course has been added."**, Toast.***LENGTH\_SHORT***).show();  
 **courseNameEdt**.setText(**""**);  
 **courseDurationEdt**.setText(**""**);  
 **courseTracksEdt**.setText(**""**);  
 **courseDescriptionEdt**.setText(**""**);  
 }  
 });  
 }  
}

**package** com.example.sqllite;  
  
  
**import** android.content.ContentValues;  
**import** android.content.Context;  
**import** android.database.sqlite.SQLiteDatabase;  
**import** android.database.sqlite.SQLiteOpenHelper;  
  
**public class** DBHandler **extends** SQLiteOpenHelper {  
  
 **private static final** String ***DB\_NAME*** = **"coursedb"**;

**private static final int *DB\_VERSION*** = 1;  
  
 **private static final** String ***TABLE\_NAME*** = **"mycourses"**;  
**private static final** String ***ID\_COL*** = **"id"**;  
  
 **private static final** String ***NAME\_COL*** = **"name"**;  
  
 **private static final** String ***DURATION\_COL*** = **"duration"**;  
  
 **private static final** String ***DESCRIPTION\_COL*** = **"description"**;  
  
 **private static final** String ***TRACKS\_COL*** = **"tracks"**;  
  
 **public** DBHandler(Context context) {  
 **super**(context, ***DB\_NAME***, **null**, ***DB\_VERSION***);  
 }  
  
 @Override  
 **public void** onCreate(SQLiteDatabase db) {  
String query = **"CREATE TABLE "** + ***TABLE\_NAME*** + **" ("** + ***ID\_COL*** + **" INTEGER PRIMARY KEY AUTOINCREMENT, "** + ***NAME\_COL*** + **" TEXT,"** + ***DURATION\_COL*** + **" TEXT,"** + ***DESCRIPTION\_COL*** + **" TEXT,"** + ***TRACKS\_COL*** + **" TEXT)"**;  
  
 db.execSQL(query);  
 }  
  
 **public void** addNewCourse(String courseName, String courseDuration, String courseDescription, String courseTracks) {  
  
 SQLiteDatabase db = **this**.getWritableDatabase();  
  
 ContentValues values = **new** ContentValues();  
  
 values.put(***NAME\_COL***, courseName);  
 values.put(***DURATION\_COL***, courseDuration);  
 values.put(***DESCRIPTION\_COL***, courseDescription);  
 values.put(***TRACKS\_COL***, courseTracks);  
  
 db.insert(***TABLE\_NAME***, **null**, values);  
  
db.close();  
 }  
  
 @Override  
 **public void** onUpgrade(SQLiteDatabase db, **int** oldVersion, **int** newVersion) {  
 db.execSQL(**"DROP TABLE IF EXISTS "** + ***TABLE\_NAME***);  
 onCreate(db);  
 }  
}

OUTPUT



RESULT: Program to create database using SQLite and perform insert operation is successfully executed and output verified.

Program 10 (CO5)

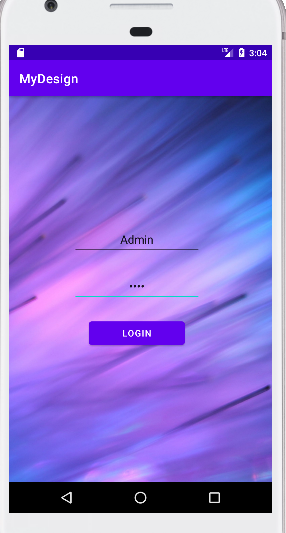
AIM: Program to implement UI design using manifest code .

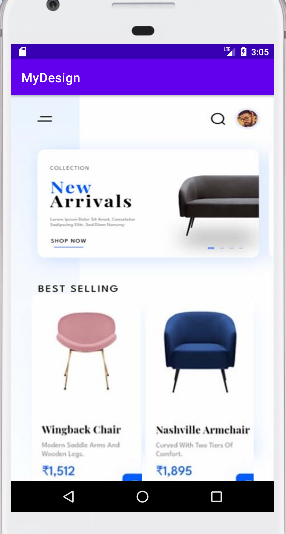
*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.appcompat.widget.LinearLayoutCompat xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:scaleType="fitCenter"  
 android:background="@drawable/login"  
  
 tools:context=".MainActivity">  
  
 <LinearLayout  
 android:layout\_width="409dp"  
 android:layout\_height="729dp"  
 android:orientation="vertical"  
 tools:layout\_editor\_absoluteX="1dp"  
 tools:layout\_editor\_absoluteY="1dp">  
  
 <EditText  
 android:id="@+id/uname"  
 android:layout\_width="200dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="100dp"  
 android:layout\_marginTop="200dp"  
 android:ems="10"  
 android:hint="Username"  
 android:inputType="textPersonName"  
 android:minHeight="48dp"  
 android:textAlignment="center" />  
  
 <EditText  
 android:id="@+id/pass"  
 android:layout\_width="200dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="100dp"  
 android:layout\_marginTop="25dp"  
 android:ems="10"  
 android:hint="Password"  
 android:inputType="textPassword"  
 android:minHeight="48dp"  
 android:textAlignment="center" />  
  
 <Button  
 android:id="@+id/button"  
 android:layout\_width="150dp"  
 android:layout\_marginTop="25dp"  
 android:layout\_marginLeft="125dp"  
 android:layout\_height="wrap\_content"  
 android:text="Login" />  
 </LinearLayout>  
</androidx.appcompat.widget.LinearLayoutCompat>

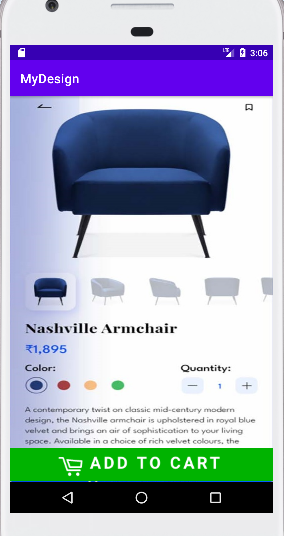
*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:scaleType="fitCenter"  
 android:background="@drawable/ec1"  
 tools:context=".MainActivity2">  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="horizontal">  
  
 <ImageButton  
 android:id="@+id/imageButton"  
 android:layout\_width="231dp"  
 android:layout\_height="320dp"  
 android:layout\_marginLeft="32dp"  
 android:layout\_marginTop="305dp"  
 android:layout\_marginBottom="10dp"  
 android:layout\_weight="1"  
 android:padding="0dp"  
 android:scaleType="fitCenter"  
  
 app:srcCompat="@drawable/ec5"  
 tools:ignore="SpeakableTextPresentCheck" />  
  
 <ImageButton  
 android:id="@+id/imageButton2"  
 android:layout\_width="231dp"  
 android:layout\_height="320dp"  
 android:layout\_marginLeft="3dp"  
 android:layout\_marginTop="305dp"  
 android:layout\_marginBottom="10dp"  
 android:layout\_marginRight="30dp"  
 android:layout\_weight="1"  
 android:padding="2dp"  
 android:scaleType="fitCenter"  
 app:srcCompat="@drawable/ec4"  
 tools:ignore="SpeakableTextPresentCheck" />  
 </LinearLayout>  
</androidx.constraintlayout.widget.ConstraintLayout>

*<?*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"  
 android:scaleType="fitCenter"  
 android:background="@drawable/ec2"  
 tools:context=".MainActivity3">  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:orientation="vertical">  
  
 <ImageButton  
 android:id="@+id/imageButton4"  
 android:layout\_width="match\_parent"  
 android:layout\_height="51dp"  
 android:layout\_marginTop="550dp"  
 app:srcCompat="@drawable/add"  
 tools:ignore="SpeakableTextPresentCheck" />  
 </LinearLayout>  
</androidx.constraintlayout.widget.ConstraintLayout>

OUTPUT







RESULT: Program to implement UI design using manifest code is successfully executed and output verified.

GitHub Link:- https://github.com/adithyan739/Android-Lab