**Program No: 01 Date:10-08-2022**

**Aim**: Design a login form with Username and Password using linear layout and toast valid credentials.

**Program Code:**

**activity.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"  
 tools:context=".MainActivity"  
 android:orientation="vertical">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Login"  
 android:textSize="@dimen/cardview\_default\_radius"/>  
  
 <EditText  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="username"  
 android:id="@+id/et1"  
 />  
 <EditText  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="password"  
 android:id="@+id/et2"  
 android:layout\_marginTop="10dp"  
 android:inputType="textPassword"  
 />  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Login"  
 android:id="@+id/btn"  
 android:layout\_marginLeft="140dp"  
 />

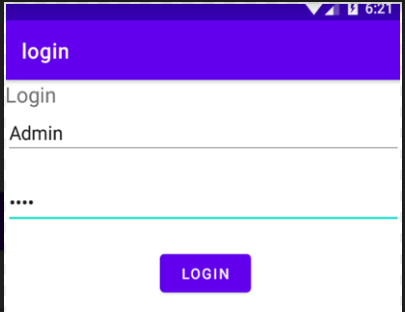
</LinearLayout>

**Mainactivity.java**

package com.example.pgm2;  
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 {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 EditText et1=findViewById(R.id.*et1*);  
 EditText et2=findViewById(R.id.*et2*);  
 Button button=findViewById(R.id.*btn*);  
button.setOnClickListener(new View.OnClickListener() { @Override  
 public void onClick(View view) {  
 validate(et1.getText().toString(),et2.getText().toString());  
 }  
 private void validate(String us,String pw)  
 {  
 if(us.equals("admin")&&pw.equals("1234"))  
 {  
 Toast.*makeText*(getApplicationContext(),"Login successfull",Toast.*LENGTH\_LONG*).show();  
 }  
 else  
 {  
 Toast.*makeText*(getApplicationContext(),"Unsuccessfull login",Toast.*LENGTH\_LONG*).show();  
 }  
 }  
 });  
 }  
}

**Result**: Program compiled successfully and output verified.

**Output**

****

**Program No: 02 Date:16-08-2022**

**Aim**: Write a program to demonstrate the activity life cycle.

**Program Code:**

**activity.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <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" />

<androidx.constraintlayout.widget.ConstraintLayout>

**Mainactivity.java**

package com.example.myapplication;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.util.Log;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 Log.*d*("lifecycle","onCreate invoked");  
 }  
 @Override  
 protected void onStart() {  
 super.onStart();  
 Log.*d*("lifecycle","onStart invoked");  
 }  
 @Override  
 protected void onResume() {  
 super.onResume();  
 Log.*d*("lifecycle","onResume invoked");  
 }  
 @Override  
 protected void onPause() {  
 super.onPause();  
 Log.*d*("lifecycle","onPause invoked");  
 }  
 @Override  
 protected void onStop() {  
 super.onStop();  
 Log.*d*("lifecycle","onStop invoked");  
 }  
 @Override  
 protected void onRestart() {  
 super.onRestart();  
 Log.*d*("lifecycle","onRestart invoked");  
 }  
 @Override  
 protected void onDestroy() {  
 super.onDestroy();  
 Log.*d*("lifecycle","onDestroy invoked");  
 }  
}

**Result**: Program compiled successfully and output verified.

**Output**



**Program No: 03 Date:19-08-2022**

**Aim**: Implementing basic arithmetic operation of a simple calculator.

**Program Code:**

**activity.xml**

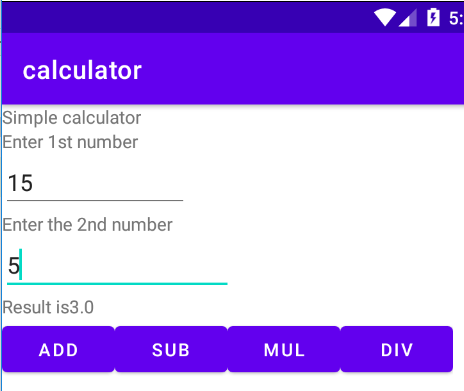
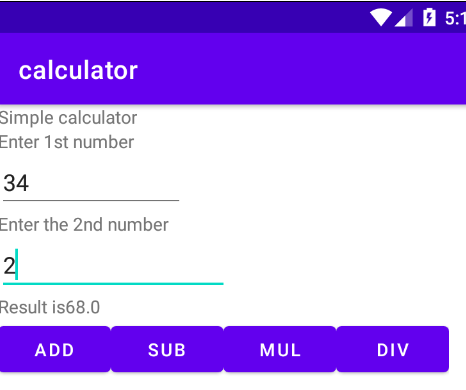
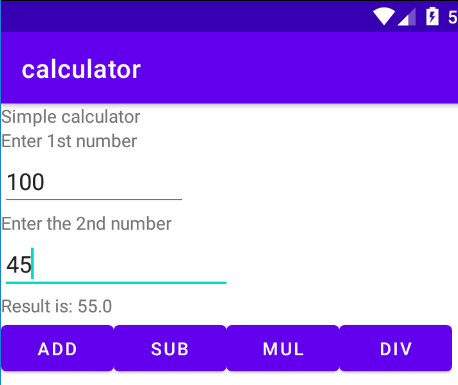
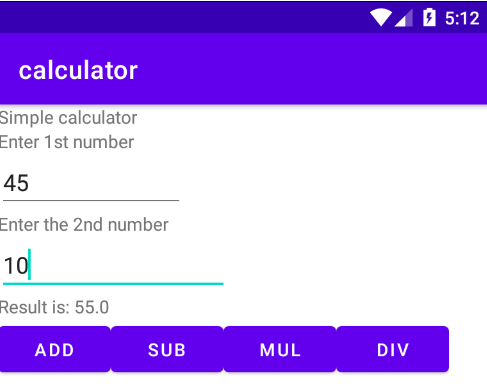
*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout  
 xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity"  
 android:orientation="vertical">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Simple calculator"/>  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Enter 1st number"/>  
 <EditText  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter 1st number"  
 android:id="@+id/n1"/>  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="Enter the 2nd number"/>  
 <EditText  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:hint="Enter the 2nd number"  
 android:id="@+id/n2"/>  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/t1"/>  
 <LinearLayout  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content">  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Add"  
 android:id="@+id/b1"/>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Sub"  
 android:id="@+id/b2"/>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Mul"  
 android:id="@+id/b3"/>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Div"  
 android:id="@+id/b4"/>  
 </LinearLayout>  
  
</LinearLayout>

**Mainactivity.java**

package com.example.myapplication4;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 EditText t1=findViewById(R.id.*n1*);  
 EditText t2=findViewById(R.id.*n2*);  
 Button add=findViewById(R.id.*b1*);  
 Button sub=findViewById(R.id.*b2*);  
 Button mul=findViewById(R.id.*b3*);  
 Button div=findViewById(R.id.*b4*);  
 TextView tv1=findViewById(R.id.*t1*);  
 add.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Double a1 = Double.*parseDouble*(t1.getText().toString());  
 Double a2 = Double.*parseDouble*(t2.getText().toString());  
 Double r = a1 + a2;  
 tv1.setText("Result is: " + String.*valueOf*(r));  
 }  
 });  
 sub.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Double s1=Double.*parseDouble*(t1.getText().toString());  
 Double s2=Double.*parseDouble*(t2.getText().toString());  
 Double r=s1-s2;  
 tv1.setText("Result is: "+String.*valueOf*(r));  
 }  
 });  
 mul.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Double m1 = Double.*parseDouble*(t1.getText().toString());  
 Double m2 = Double.*parseDouble*(t2.getText().toString());  
 Double r = m1 \* m2;  
 tv1.setText("Result is" + String.*valueOf*(r));  
  
 }  
 });  
 div.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Double d1=Double.*parseDouble*(t1.getText().toString());  
 Double d2=Double.*parseDouble*(t2.getText().toString());  
 Double r=d1/d2;  
 tv1.setText("Result is" +String.*valueOf*(r));  
 }  
 });  
  
  
 }  
}

**Result**: Program compiled successfully and output verified.

**Output**



**Program No: 04 Date:23-08-2022**

**Aim**: Implement validation on various UI controls.

**Program Code:**

**activity.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">  
  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:text="REGISTRATION"  
 android:textColor="@color/design\_default\_color\_error"  
 android:textSize="30dp"/>  
 <EditText  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="NAME"  
 android:id="@+id/name"/>  
 <EditText  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="MOBILE NUMBER"  
 android:id="@+id/mobile"/>  
 <EditText  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:hint="AGE"  
 android:id="@+id/age"/>  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="GENDER"  
 android:textSize="20dp"  
 android:textColor="@color/design\_default\_color\_primary"/>  
 <RadioGroup  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/RG">  
 <RadioButton  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/radiobutton1"  
 android:text="Male"/>  
 <RadioButton  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/radiobutton2"  
 android:text="Female"/>  
 </RadioGroup>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Submit"  
 android:id="@+id/button"/>  
 <CheckBox  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="i agree all terms and conditions"  
 android:id="@+id/checkbox"/>

</LinearLayout

**Mainactivity.java**

package com.example.myapplication5;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.CheckBox;  
import android.widget.EditText;  
import android.widget.RadioButton;  
import android.widget.RadioGroup;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
 EditText name;  
 EditText mobileno;  
 EditText age;  
 RadioGroup radiogroup;  
 RadioButton male;  
 RadioButton female;  
 CheckBox checkbox;  
 Button button;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 name=findViewById(R.id.*name*);  
 mobileno=findViewById(R.id.*mobile*);  
 age=findViewById(R.id.*age*);  
 radiogroup=findViewById(R.id.*RG*);  
 male=findViewById(R.id.*radiobutton1*);  
 female=findViewById(R.id.*radiobutton2*);  
 checkbox=findViewById(R.id.*checkbox*);  
 button=findViewById(R.id.*button*);  
 button.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 if (error()){  
 Intent i=new Intent(MainActivity.this,login.class);  
 startActivity(i);  
 }  
 }  
 });  
 }  
 private boolean error(){  
 if (name.getText().toString().length()==0){  
 Toast.*makeText*(getApplicationContext(),"Please enter the name",Toast.*LENGTH\_LONG*).show();  
 return false;  
 }else if (mobileno.getText().toString().length()==0){  
 Toast.*makeText*(getApplicationContext(),"please enter mobile number",Toast.*LENGTH\_LONG*).show();  
 return false;  
 }  
 else if (mobileno.getText().toString().length()!=10){  
 Toast.*makeText*(getApplicationContext(),"please enter 10 numbers",Toast.*LENGTH\_LONG*).show();  
 return false;  
 }  
 else if (!male.isChecked() && !female.isChecked()){  
 Toast.*makeText*(getApplicationContext(),"please choose radio button",Toast.*LENGTH\_LONG*).show();  
 return false;  
 }else if (!checkbox.isChecked()){  
 Toast.*makeText*(getApplicationContext(),"Please click on checkbox",Toast.*LENGTH\_LONG*).show();  
 return false;  
 }else {  
 return true;  
 }  
 }

}

**activity\_login.xml**

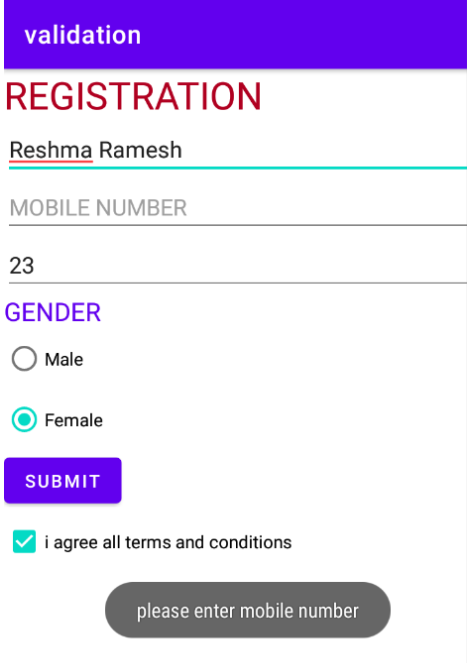
*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".login">  
  
 <TextView  
 android:id="@+id/textView"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Welcome to my login page"  
 tools:layout\_editor\_absoluteX="121dp"  
 tools:layout\_editor\_absoluteY="194dp" />  
</LinearLayout>

**Login.java**

package com.example.myapplication5;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
  
public class login extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_login*);  
 }}

**Result**: Program compiled successfully and output verified.

**Output**



**Program No: 05 Date:26-08-2022**

**Aim**: Design a registration activity and store registration details in local memory of phone using intent and shared preferences

**Program Code:**

**activity.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<RelativeLayout 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"  
 tools:ignore="HardcodedText">  
  
 <TextView  
 android:id="@+id/textview"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_centerHorizontal="true"  
 android:layout\_marginTop="32dp"  
 android:text="Registration form"  
 android:textColor="@android:color/black"  
 android:textSize="24sp"/>  
 <EditText  
 android:id="@+id/edit1"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/textview"  
 android:layout\_marginStart="16dp"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginEnd="16dp"  
 android:hint="Enter your name"  
 android:padding="10dp"/>  
 <EditText  
 android:id="@+id/edit2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/edit1"  
 android:layout\_marginStart="16dp"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginEnd="16dp"  
 android:hint="Enter your age"  
 android:padding="10dp"  
 android:inputType="number"/>  
 <EditText  
 android:id="@+id/edit3"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/edit2"  
 android:layout\_marginStart="16dp"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginEnd="16dp"  
 android:hint="Enter your Email id"  
 android:padding="10dp"/>  
 <EditText  
 android:id="@+id/edit4"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/edit3"  
 android:layout\_marginStart="16dp"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginEnd="16dp"  
 android:hint="Enter your Address"  
 android:padding="10dp"/>  
 <EditText  
 android:id="@+id/edit5"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/edit4"  
 android:layout\_marginStart="16dp"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginEnd="16dp"  
 android:hint="Enter your gender"  
 android:padding="10dp"/>  
 <EditText  
 android:id="@+id/edit6"  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/edit5"  
 android:layout\_marginStart="16dp"  
 android:layout\_marginTop="8dp"  
 android:layout\_marginEnd="16dp"  
 android:hint="Enter your Qualification"  
 android:padding="10dp"/>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/b1"  
 android:layout\_below="@+id/edit6"  
 android:text="Submit"/>  
</RelativeLayout>

**MainActivity.java**

package com.example.myapplication6;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.content.SharedPreferences;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
  
public class MainActivity extends AppCompatActivity {  
 private EditText name,age,email,address,gender,quali;  
 Button b1;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 name=findViewById(R.id.*edit1*);  
 age=findViewById(R.id.*edit2*);  
 email=findViewById(R.id.*edit3*);  
 address=findViewById(R.id.*edit4*);  
 gender=findViewById(R.id.*edit5*);  
 quali=findViewById(R.id.*edit6*);  
 b1=findViewById(R.id.*b1*);  
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Intent i=new Intent(MainActivity.this,MainActivity2.class);  
 startActivity(i);  
 }  
 });  
 }  
 protected void onResume() {  
 super.onResume();  
 SharedPreferences sh = getSharedPreferences("mysharedpref", *MODE\_PRIVATE*);  
 String s1 = sh.getString("name", "");  
 int a = sh.getInt("age", 0);  
 String s2 = sh.getString("email", "");  
 String s3 = sh.getString("address", "");  
 String s4 = sh.getString("gender", "");  
 String s5 = sh.getString("quali", "");  
 name.setText(s1);  
 age.setText(String.*valueOf*(a));  
 email.setText(s2);  
 address.setText(s3);  
 gender.setText(s4);  
 quali.setText(s5);  
 }  
 protected void onPause() {  
 super.onPause();  
 SharedPreferences sharedPreferences = getSharedPreferences("mysharedpref", *MODE\_PRIVATE*);  
 SharedPreferences.Editor myEdit = sharedPreferences.edit();  
 myEdit.putString("name", name.getText().toString());  
 myEdit.putInt("age", Integer.*parseInt*(age.getText().toString()));  
 myEdit.putString("email", email.getText().toString());  
 myEdit.putString("address", address.getText().toString());  
 myEdit.putString("gender", gender.getText().toString());  
 myEdit.putString("quali", quali.getText().toString());  
 myEdit.commit();  
 }  
  
  
}

**activity\_main2.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<RelativeLayout 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">  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Welocome"/>  
</RelativeLayout>

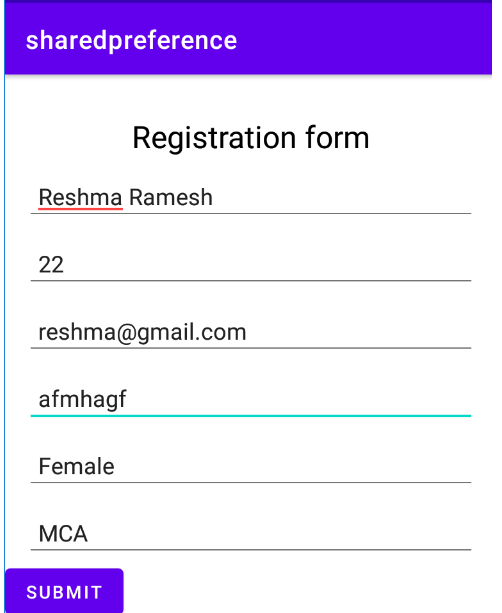
**MainActivity2.java**

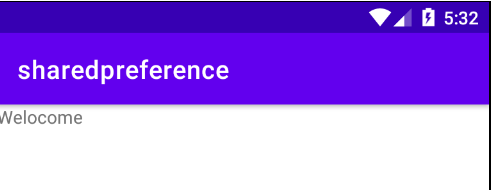
package com.example.myapplication6;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
  
public class MainActivity2 extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main2*);  
 }

}

**Result**: Program compiled successfully and output verified.

**OUTPUT**



****

**Program No: 06 Date:30-08-2022**

**Aim**: Design a simple calculator using GridLayout.

**Program Code:**

**activity\_main.xml**

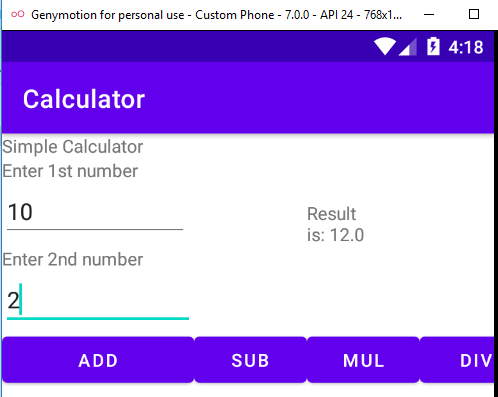
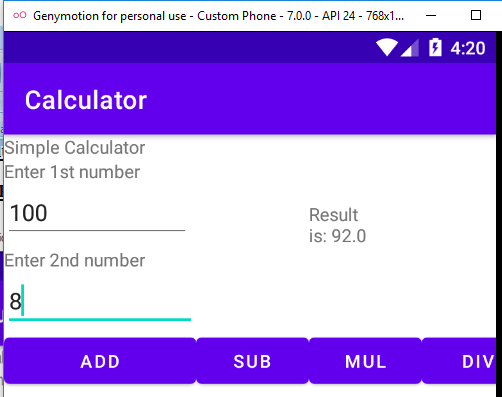
*<?*xml version="1.0" encoding="utf-8"*?>*<GridLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="0"  
 android:layout\_column="0"  
 android:text="Simple Calculator" />  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="1"  
 android:layout\_column="0"  
 android:text="Enter 1st number"/>  
 <EditText  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="2"  
 android:layout\_column="0"  
 android:hint="Enter 1st number"  
 android:id="@+id/n1"/>  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="3"  
 android:layout\_column="0"  
 android:text="Enter 2nd number"/>  
 <EditText  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="4"  
 android:layout\_column="0"  
 android:hint="Enter 2nd number"  
 android:id="@+id/n2"/>  
  
 <Button  
 android:layout\_width="150dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="5"  
 android:layout\_column="0"  
 android:text="Add"  
 android:id="@+id/b1"/>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="5"  
 android:layout\_column="1"  
  
 android:text="Sub"  
 android:id="@+id/b2"/>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="5"  
 android:layout\_column="2"  
 android:text="Mul"  
 android:id="@+id/b3"/>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="5"  
 android:layout\_column="3"  
 android:text="Div"  
 android:id="@+id/b4"/>  
  
 <TextView  
 android:layout\_width="50dp"  
 android:layout\_height="wrap\_content"  
 android:layout\_row="2"  
 android:layout\_column="2"  
 android:id="@+id/t1"/>  
  
  
</GridLayout>

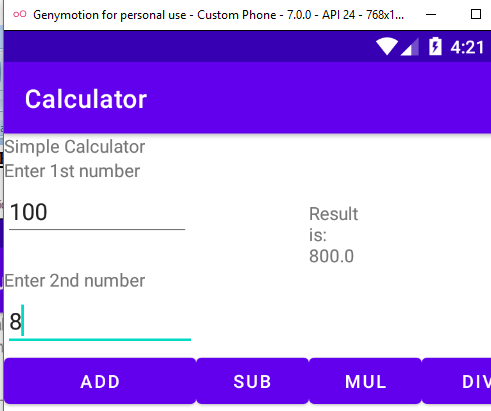
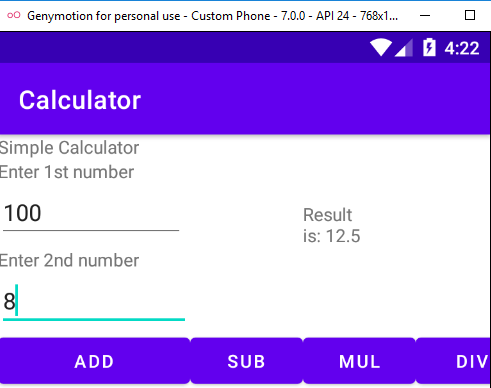
**MainActivity.java**

package com.example.pgm9;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
import android.widget.TextView;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 EditText t1=findViewById(R.id.*n1*);  
 EditText t2=findViewById(R.id.*n2*);  
 Button add=findViewById(R.id.*b1*);  
 Button sub=findViewById(R.id.*b2*);  
 Button mul=findViewById(R.id.*b3*);  
 Button div=findViewById(R.id.*b4*);  
 TextView tv1=findViewById(R.id.*t1*);  
  
 add.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Double a1=Double.*parseDouble*(t1.getText().toString());  
 Double a2=Double.*parseDouble*(t2.getText().toString());  
 Double r=a1+a2;  
 tv1.setText("Result is: "+String.*valueOf*(r));  
 }  
 });  
 sub.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Double s1=Double.*parseDouble*(t1.getText().toString());  
 Double s2=Double.*parseDouble*(t2.getText().toString());  
 Double r=s1-s2;  
 tv1.setText("Result is: "+String.*valueOf*(r));  
 }  
 });  
 mul.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Double m1=Double.*parseDouble*(t1.getText().toString());  
 Double m2=Double.*parseDouble*(t2.getText().toString());  
 Double r=m1\*m2;  
 tv1.setText("Result is: "+String.*valueOf*(r));  
 }  
 });  
 div.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Double d1=Double.*parseDouble*(t1.getText().toString());  
 Double d2=Double.*parseDouble*(t2.getText().toString());  
 Double r=d1/d2;  
 tv1.setText("Result is: "+String.*valueOf*(r));  
 }  
 });  
  
 }  
}

**Result**: Program compiled successfully and output verified.

**OUTPUT**

** **

** **

**Program No:07 Date:02-09-2022**

**Aim**: Create a facebook page using RelativeLayout ; set properties using .xml file

**Program Code:**

**activity\_main.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<RelativeLayout 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">  
  
 <RelativeLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/layout1">  
 <ImageView  
 android:layout\_width="match\_parent"  
 android:layout\_height="250dp"  
 android:id="@+id/coverpic"  
 android:src="@drawable/hill"  
 android:scaleType="centerCrop"/>  
 <ImageView  
 android:layout\_width="150dp"  
 android:layout\_height="100dp"  
 android:layout\_marginLeft="10dp"  
 android:scaleType="centerCrop"  
 android:src="@drawable/tea"  
 android:id="@+id/profilepic"  
 android:layout\_alignBottom="@+id/coverpic"/>  
 <TextView  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Reshma Ramesh"  
 android:textColor="@android:color/holo\_blue\_bright"  
 android:textSize="25dp"  
 android:layout\_alignRight="@+id/profilepic"  
 android:layout\_alignParentRight="true"  
 android:layout\_marginRight="40dp"  
 android:layout\_alignBottom="@id/coverpic"/>  
  
 </RelativeLayout>  
  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:layout\_below="@+id/layout1"  
 android:id="@+id/layout2"  
 android:orientation="horizontal">  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginLeft="30dp"  
 android:backgroundTint="#03BCF4"  
 android:text="About"  
 android:textSize="10dp"  
 />  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Photos"  
 android:backgroundTint="#03BCF4"  
 android:textSize="10dp"  
 />  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Timeline"  
 android:backgroundTint="#03BCF4"  
 android:textSize="10dp"  
 />  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="Events"  
 android:backgroundTint="#03BCF4"  
 android:textSize="10dp"  
 />  
  
 </LinearLayout>  
 <RelativeLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/layout3"  
 android:layout\_below="@+id/layout2">  
 <LinearLayout  
 android:layout\_width="match\_parent"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/layout4"  
 android:orientation="horizontal"  
 >  
 <ImageView  
 android:layout\_width="70dp"  
 android:layout\_height="50dp"  
 android:layout\_marginTop="100dp"  
 android:src="@drawable/tea"  
 android:layout\_marginLeft="70dp"/>  
 <EditText  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:layout\_marginTop="100dp"  
 android:hint="WRITE YOUR POST HERE"/>

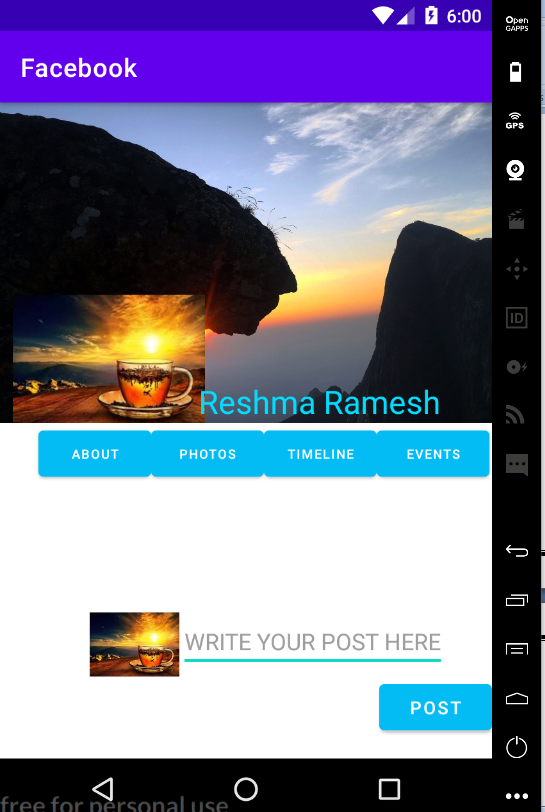
</LinearLayout>  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="post"  
 android:layout\_below="@+id/layout4"  
 android:backgroundTint="#03BCF4"  
 android:layout\_alignParentRight="true"  
 android:id="@+id/post"/>  
  
  
 </RelativeLayout>  
  
</RelativeLayout>

**MainActivity.java**

package com.example.facebook;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 }  
}

**Result**: Program compiled successfully and output verified.

**OUTPUT**

****

**Program No:08 Date:14-09-2022**

**Aim**: Develop an application that toggles an image using frame layout.

**Program Code:**

**activity\_main.xml**

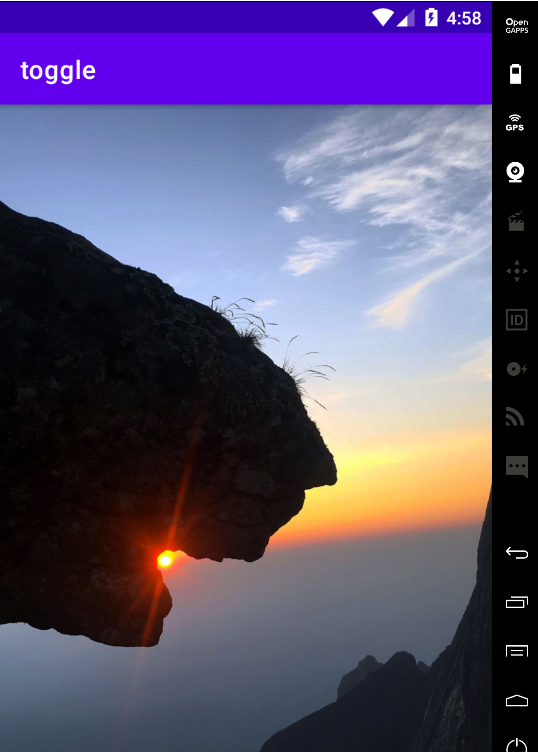
*<?*xml version="1.0" encoding="utf-8"*?>*<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <ImageView  
 android:id="@+id/image1"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:scaleType="centerCrop"  
 android:src="@drawable/pic1"/>  
 <ImageView  
 android:id="@+id/image2"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:scaleType="centerCrop"  
 android:src="@drawable/pic2"/>  
  
  
</FrameLayout>

**MainActivity.java**

package com.example.pgm11;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.media.Image;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.ImageView;  
  
public class MainActivity extends AppCompatActivity {  
 ImageView i1,i2;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 i1=findViewById(R.id.*image1*);  
 i2=findViewById(R.id.*image2*);  
 i1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 i1.setVisibility(view.*GONE*);  
 i2.setVisibility(view.*VISIBLE*);  
 }  
 });  
 i2.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 i1.setVisibility(view.*VISIBLE*);  
 i2.setVisibility(view.*GONE*);  
 }  
 });  
 }  
}

**Result**: Program compiled successfully and output verified.

**OUTPUT**

****

****

**Program No: 09 Date:16-09-2022**

**Aim**:Web application to implement implicit intent

**Program Code:**

**activity.xml**

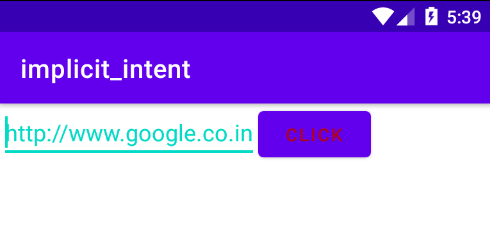
*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <EditText  
 android:id="@+id/t1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="http://www.google.co.in"  
 android:textColor="@color/design\_default\_color\_secondary"/>  
 <Button  
 android:id="@+id/btn1"  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:text="click"  
 android:textColor="@color/design\_default\_color\_error"/>  
  
</LinearLayout>

**MainActivity.java**

package com.example.myapplication7;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Intent;  
import android.net.Uri;  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.EditText;  
  
public class MainActivity extends AppCompatActivity {  
 EditText et1;  
 Button b1;  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 et1=findViewById(R.id.*t1*);  
 b1=findViewById(R.id.*btn1*);  
 b1.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 String url=et1.getText().toString();  
 Intent i=new Intent(Intent.*ACTION\_VIEW*, Uri.*parse*(url));  
 startActivity(i);  
 }  
 });  
 }  
}

**Result**: Program compiled successfully and output verified.

**OUTPUT**

****



**Program No: 10 Date:20-09-2022**

**Aim**: Implement options menu to navigate two activities.

**Program Code:**

**activity\_main.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity">  
  
 <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" />

</androidx.constraintlayout.widget.ConstraintLayout>

**menu.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<menu xmlns:android="http://schemas.android.com/apk/res/android">  
 <item android:id="@+id/item1"  
 android:title="File"/>  
 <item android:id="@+id/item2"  
 android:title="Edit">  
 <menu>  
 <item android:id="@+id/sitem1"  
 android:title="Cut"/>  
 <item android:id="@+id/sitem2"  
 android:title="Copy"/>  
 <item android:id="@+id/sitem3"  
 android:title="Paste"/>  
 </menu>  
 </item>  
 <item android:id="@+id/item3"  
 android:title="View"/>

</menu>

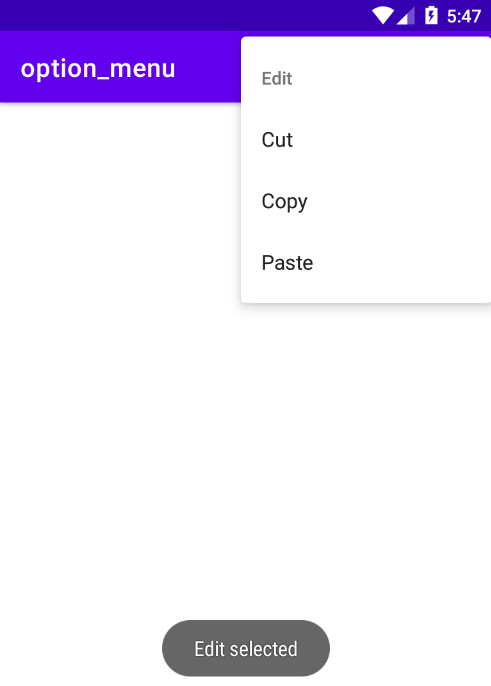
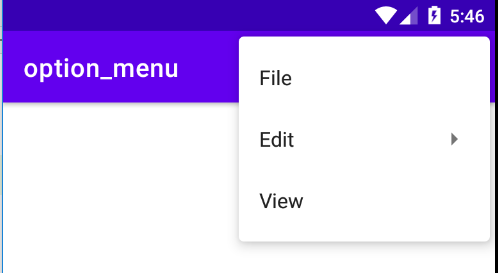
**MainActivity.java**

package com.example.myapplication7;  
  
import androidx.annotation.NonNull;  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.Menu;  
import android.view.MenuItem;  
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) {  
 getMenuInflater().inflate(R.menu.*menu*,menu);  
 return true;  
 }  
  
 @Override  
 public boolean onOptionsItemSelected(@NonNull MenuItem item) {  
 switch (item.getItemId()){  
 case R.id.*item1*:  
 Toast.*makeText*(getApplicationContext(),"File selected",Toast.*LENGTH\_SHORT*).show();  
 break;  
 case R.id.*item2*:  
 Toast.*makeText*(getApplicationContext(),"Edit selected",Toast.*LENGTH\_SHORT*).show();  
 break;  
 case R.id.*sitem1*:  
 Toast.*makeText*(getApplicationContext(),"Cut selected",Toast.*LENGTH\_SHORT*).show();  
 break;  
 case R.id.*sitem2*:  
 Toast.*makeText*(getApplicationContext(),"Copy selected",Toast.*LENGTH\_SHORT*).show();  
 break;  
 case R.id.*sitem3*:  
 Toast.*makeText*(getApplicationContext(),"Paste selected",Toast.*LENGTH\_SHORT*).show();  
 break;  
 case R.id.*item3*:  
 Toast.*makeText*(getApplicationContext(),"View selected",Toast.*LENGTH\_SHORT*).show();  
 break;  
  
 }  
 return super.onOptionsItemSelected(item);  
 }

}

**Result:** Program compiled successfully and output verified.

**Output**



**Program No: 11 Date:27-09-2022**

**Aim**: Develop an application that uses ArrayAdapter with ListView.

**Program Code:**

**activity\_main.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"  
 tools:context=".MainActivity">  
<ListView  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:id="@+id/l">  
</ListView>  
  
  
</LinearLayout>

**MainActivity.java**

package com.example.pgm10;  
  
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.ListView;  
  
public class MainActivity extends AppCompatActivity {  
 ListView l;  
 String[] p={"A.P.J Abdul Kalam","Sachin Tendulkar"," Cristiano Ronaldo"};  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 l=findViewById(R.id.*l*);  
 ArrayAdapter<String> adapter=new ArrayAdapter<String>(this, android.R.layout.*simple\_list\_item\_1*,p);  
 l.setAdapter(adapter);  
 l.setOnItemClickListener(new AdapterView.OnItemClickListener() {  
 @Override  
 public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {  
 if (i==0)  
 {  
 Intent s=new Intent(MainActivity.this,MainActivity2.class);  
 startActivity(s);  
 }  
 else if(i==1)  
 {  
 Intent s=new Intent(MainActivity.this,MainActivity3.class);  
 startActivity(s);  
 }  
 else if(l==2)  
 {  
 Intent s=new Intent(MainActivity.this,MainActivity4.class);  
 startActivity(s);  
 }  
 }  
 });  
 }  
}

**activity\_main2.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity2">  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:text="Born on 15th October 1931 at Rameswaram in Tamil Nadu, Dr.Avul Pakir Jainulabdeen Abdul Kalam specialized in Aeronautical Engineering from Madras Institute of Technology.">  
   
 </TextView>  
  
</androidx.constraintlayout.widget.ConstraintLayout>

**MainActivity2.java**

package com.example.pgm10;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
  
public class MainActivity2 extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main2*);  
 }  
}

**Activity\_main3.xml**

*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity3">  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:text="Sachin Tendulkar was the most complete batter of his time, the most prolific run-maker of all time, and arguably the biggest cricket icon the game has ever known.">  
  
 </TextView>  
</androidx.constraintlayout.widget.ConstraintLayout>

**MainActivity3.java**

package com.example.pgm10;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
  
public class MainActivity3 extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main3*);  
 }  
}

**activity\_main4.xml**

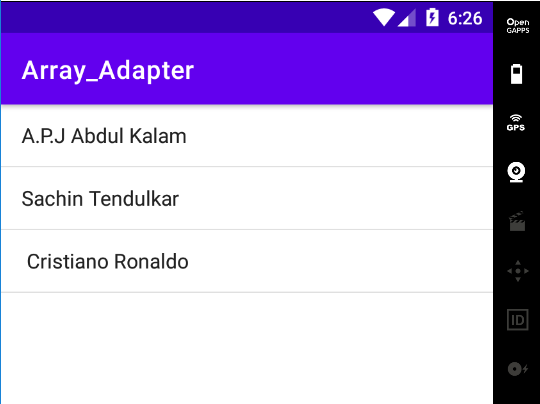
*<?*xml version="1.0" encoding="utf-8"*?>*<androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 tools:context=".MainActivity4">  
 <TextView  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"  
 android:text="In February 2021, Ronaldo became the first person in the world to reach 500 million followers across Facebook, Instagram and Twitter.">  
  
 </TextView>  
</androidx.constraintlayout.widget.ConstraintLayout>

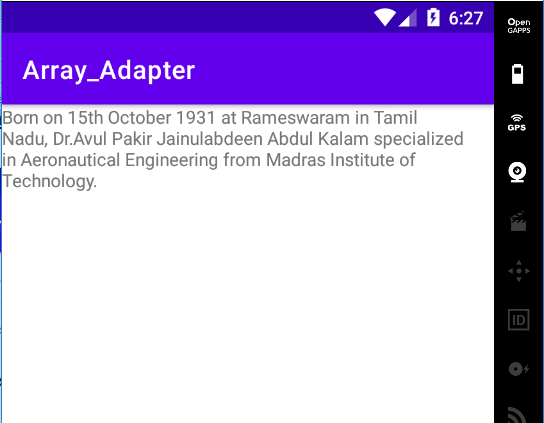
**MainActivity4.java**

package com.example.pgm10;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
  
public class MainActivity4 extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main4*);  
 }  
}

**Result**: Program compiled successfully and output verified.

**OUTPUT**

****

****

package com.example.drawshapes;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.content.Context;  
import android.graphics.Canvas;  
import android.graphics.Color;  
import android.graphics.Paint;  
import android.graphics.RectF;  
import android.os.Bundle;  
import android.view.View;  
  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(new myview(this));  
 }  
 private class myview extends View  
 {  
 public myview(Context context){  
 super(context);  
 }  
 @Override  
 protected void onDraw(Canvas canvas){  
 super.onDraw(canvas);  
 Paint paint=new Paint();  
 paint.setTextSize(40);  
 paint.setColor(Color.*BLUE*);  
  
  
 canvas.drawText("Circle",55,30,paint);  
 paint.setColor(Color.*RED*);  
 canvas.drawCircle(100,150,100,paint);  
 */\*paint.setColor(Color.GREEN);  
 // canvas.drawArc(10,20,30,40,paint);  
 //canvas.drawArc(900,900,20,30,50,90,true,paint);  
  
  
  
 paint.setColor(Color.GREEN);  
 canvas.drawText("Rectangle",255,30,paint);  
  
 paint.setColor(Color.YELLOW);  
 canvas.drawRect(250,50,400,350,paint);  
 paint.setColor(Color.GREEN);  
 canvas.drawText("Square",55,430,paint);  
 paint.setColor(Color.BLACK);  
  
 canvas.drawRect(50,450,150,550,paint);  
 paint.setColor(Color.BLUE);  
 canvas.drawText("Line",255,430,paint); \*/* paint.setStrokeWidth(10);  
 paint.setColor(Color.*CYAN*);  
 *//canvas.drawLine(250,600,350,500,paint);* final RectF oval = new RectF();  
 paint.setStyle(Paint.Style.*STROKE*);  
 */\*  
 \* drawArc(RectF oval, float startAngle, float sweepAngle, boolean useCenter, Paint paint)  
 \*  
 \* oval - The bounds of oval used to define the shape and size of the arc  
 \* startAngle - Starting angle (in degrees) where the arc begins  
 \* sweepAngle - Sweep angle (in degrees) measured clockwise  
 \* useCenter - If true, include the center of the oval in the arc, and close it if it is being stroked. This will draw a wedge  
 \* paint - The paint used to draw the arc  
 \*/* oval.set(20, 40, 180, 230);  
 canvas.drawArc(oval, 20, 140, false, paint);  
  
 }  
 }  
  
  
  
}