**Program No: 01 Date:16-08-2022**

**Aim**:Develop android application to implement button click using toast.

**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" />  
 <Button  
 android:layout\_width="wrap\_content"  
 android:layout\_height="wrap\_content"  
 android:id="@+id/btn1"  
 android:textColor="@color/black"  
 android:background="@color/cardview\_shadow\_end\_color"  
 android:text="Button click" />

**mainactivity.java**

package com.example.myapplication;  
  
import androidx.appcompat.app.AppCompatActivity;  
  
import android.os.Bundle;  
import android.view.View;  
import android.widget.Button;  
import android.widget.Toast;  
  
public class MainActivity extends AppCompatActivity {  
  
 @Override  
 protected void onCreate(Bundle savedInstanceState) {  
 super.onCreate(savedInstanceState);  
 setContentView(R.layout.*activity\_main*);  
 Button b=findViewById(R.id.*btn1*);  
 b.setOnClickListener(new View.OnClickListener() {  
 @Override  
 public void onClick(View view) {  
 Toast.*makeText*(getApplicationContext(),"buttonclicked",Toast.*LENGTH\_LONG*).show();  
 }  
 });  
 }  
  
 }

**OUTPUT**



**Program No: 02 Date:19-08-2022**

**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();  
 }  
 }  
 });  
 }  
}

**Output**

****

**Program No: 03 Date:23-08-2022**

**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" />

**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");  
 }  
}

**Output**



**Program No: 04 Date:14-09-2022**

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

**Program Code:**

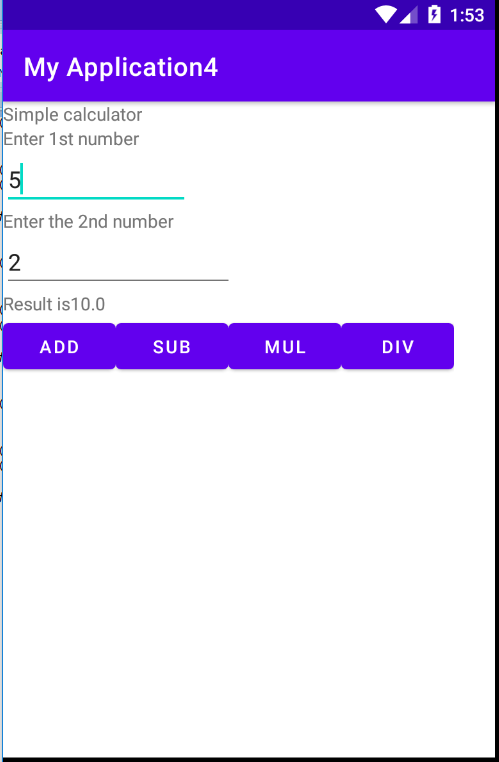
**activity.xml**

*<?*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));  
 }  
 });  
  
  
 }  
  
}

**Output**



**Program No: 05 Date:20-09-2022**

**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**

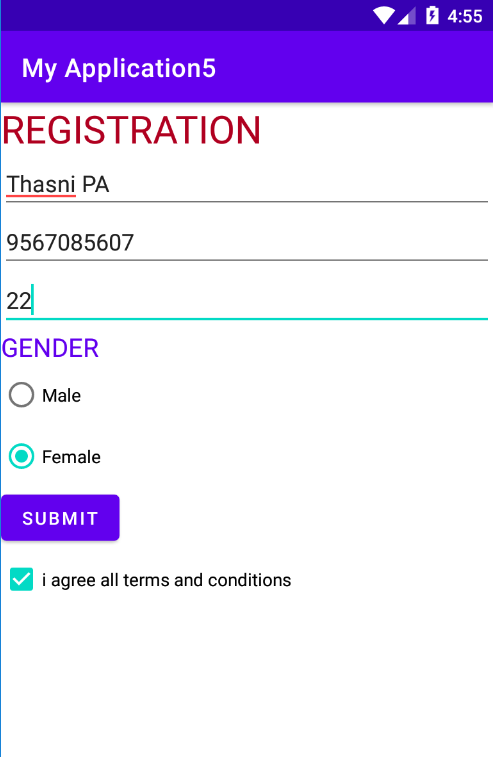
*<?*xml version="1.0" encoding="utf-8"*?>*<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"  
 xmlns:app="http://schemas.android.com/apk/res-auto"  
 xmlns:tools="http://schemas.android.com/tools"  
 android:layout\_width="match\_parent"  
 android:layout\_height="match\_parent"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

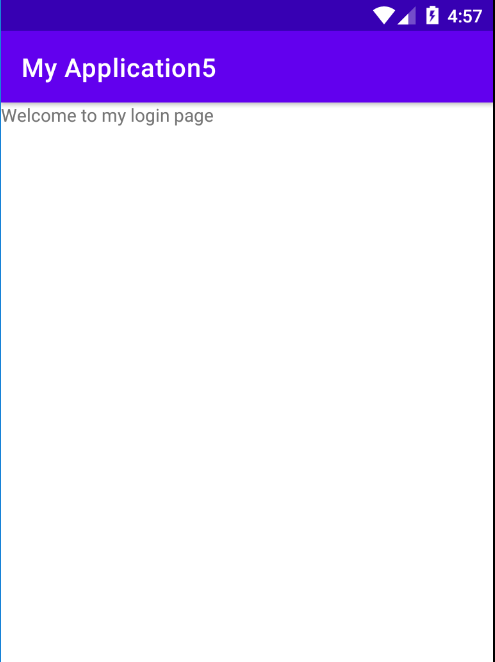
**Login.java**

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*);  
 }

}

**Output**





**Program No: 06 Date:20-09-2022**

**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*);  
 }

}

**OUTPUT**

