COURSE OUTCOME-2

<u>**AIM**</u>: Design a registration activity and store registration details in local memory of phone using Intents and SharedPreferences.

PROGRAM CODE

MainActivity.java	package com.example.sharedpreference;
	import androidx.appcompat.app.AppCompatActivity;
	import android.content.SharedPreferences;
	import android.content.Intent;
	import android.os.Bundle;
	import android.view.View;
	import android.widget.Button;
	import android.widget.EditText;
	import android.widget.RadioButton;
	import android.widget.RadioGroup;
	import android.widget.Toast;
	public class MainActivity extends AppCompatActivity { EditText e1,e2,e3,e4,e5;
	Button b1;
	RadioButton r1,r2;
	RadioGroup r;
	@Override
	protected void onCreate(Bundle savedInstanceState) {
	super.onCreate(savedInstanceState);
	setContentView(R.layout.activity_main);
	e1=(EditText)findViewById(R.id.name);
	e2=(EditText)findViewById(R.id.address);
	e3=(EditText)findViewById(R.id.email);
	e4=(EditText)findViewById(R.id.password);
	e5=(EditText)findViewById(R.id.phno);
	b1=(Button)findViewById(R.id.validate1);
	r=(RadioGroup)findViewById(R.id.gender);
	r1=(RadioButton)findViewById(R.id.male);
	r2=(RadioButton)findViewById(R.id.female);
	b1.setOnClickListener(new View.OnClickListener(){ @Override

```
public void onClick(View v)
         validate();
    });
  protected void onResume() {
    super.onResume();
    SharedPreferences sh = getSharedPreferences("MySharedPref",
MODE_PRIVATE);
    String s1 = sh.getString("name", "name");
    String s2 = sh.getString("address", "address");
    e1.setText(s1);
    e2.setText(s2);
  protected void onPause() {
    super.onPause();
    SharedPreferences sharedPreferences =
getSharedPreferences("MySharedPref", MODE_PRIVATE);
    SharedPreferences.Editor myEdit = sharedPreferences.edit();
    myEdit.putString("name", e1.getText().toString());
    myEdit.putString("address",e2.getText().toString());
    myEdit.apply();
  }
  public void validate()
    String name=e1.getText().toString();
    String email=e3.getText().toString().trim();
    String address=e2.getText().toString();
    String password=e4.getText().toString();
    String namePattern="[0-9!@#$%^&*]";
    String emailPattern="[a-zA-Z0-9._-]+@[a-z]+\.+[a-z]+";
    String pno=e5.getText().toString();
    int valid=1;
    if(name.length()==0)
       e1.getText().clear();
       e1.requestFocus();
       e1.setError("Enter name");
```

```
Toast.makeText(getApplicationContext(), "Enter valid name",
Toast.LENGTH SHORT).show();
       valid++;
    if(name.matches(".*[0-9].*"))
             e1.getText().clear();
       e1.requestFocus();
       e1.setError("Name contains illegal characters");
       Toast.makeText(getApplicationContext(), "Enter valid name",
Toast.LENGTH_SHORT).show();
       valid++;
    if(address.length()==0)
       e2.getText().clear();
       e2.requestFocus();
       e2.setError("Enter address");
       Toast.makeText(getApplicationContext(), "Enter valid address",
Toast.LENGTH_SHORT).show();
       valid++;
    if(email.length()==0)
       e3.getText().clear();
       e3.requestFocus();
       e3.setError("Enter email address");
       Toast.makeText(getApplicationContext(), "Enter valid email",
Toast.LENGTH_SHORT).show();
       valid++;
    if(!email.matches(emailPattern))
       e3.getText().clear();
       e3.requestFocus();
       e3.setError("Invalid email address");
       Toast.makeText(getApplicationContext(), "Enter valid email",
Toast.LENGTH SHORT).show();
       valid++;
    if(password.length()==0)
       e4.requestFocus();
       e4.setError("Enter password");
       valid++;
```

```
if(password.length()<5)
       e4.requestFocus();
      e4.setError("Enter an 8 digit password");
       valid++;
    if(!password.equals("password"))
      Toast.makeText(getApplicationContext(), "Incorrect password",
Toast.LENGTH_SHORT).show();
    if (r.getCheckedRadioButtonId() == -1)
      Toast.makeText(getApplicationContext(), "Please select any
gender", Toast.LENGTH_SHORT).show();
      valid++;
    else
      if(r1.isChecked())
         Toast.makeText(getApplicationContext(), "Welcome
Mr."+name, Toast.LENGTH_SHORT).show();
      if(r2.isChecked())
         Toast.makeText(getApplicationContext(), "Welcome
Ms."+name, Toast.LENGTH_SHORT).show();
    if(pno.length()<10)
      e5.setError("Phone number should be of atleast 10 digits");
       valid++;
    if(valid==1)
      Toast.makeText(getApplicationContext(), "VALIDATION
SUCESSFULL", Toast.LENGTH_SHORT).show();
       Intent i = new Intent(getApplicationContext(),
MainActivity2.class);
      i.putExtra("1", name);
      i.putExtra("2", email);
      i.putExtra("3", address);
```

```
startActivity(i);
}
}
}
```

```
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"
                     android:background="#00BCD4"
                     android:orientation="vertical"
                     tools:context=".MainActivity">
                     <EditText
                        android:id="@+id/name"
                       android:layout_width="match_parent"
                       android:layout_height="wrap_content"
                       android:backgroundTint="#00BCD4"
                        android:ems="10"
                        android:hint="Name"
                        android:inputType="textPersonName" />
                     <EditText
                        android:id="@+id/address"
                        android:layout_width="match_parent"
                       android:layout_height="wrap_content"
                        android:backgroundTint="#00BCD4"
                        android:ems="10"
                        android:hint="Address"
                        android:inputType="textPersonName"
                        android:minHeight="48dp" />
                     <EditText
                       android:id="@+id/email"
                       android:layout width="match parent"
                        android:layout_height="wrap_content"
```

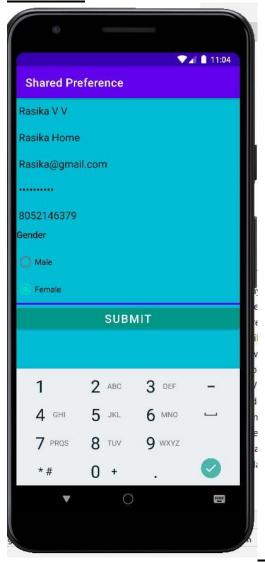
```
android:backgroundTint="#00BCD4"
    android:ems="10"
    android:hint="Email"
    android:inputType="textEmailAddress" />
  <EditText
    android:id="@+id/password"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:backgroundTint="#00BCD4"
    android:ems="10"
    android:hint="Password"
    android:inputType="textPassword" />
  <EditText
    android:id="@+id/phno"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:backgroundTint="#00BCD4"
    android:ems="10"
    android:hint="Phone"
    android:inputType="phone" />
  <TextView
    android:id="@+id/textView"
    android:layout_width="match_parent"
    android:layout_height="35dp"
    android:backgroundTint="#00BCD4"
    android:text="Gender"
android:textAppearance="@style/TextAppearance.AppCompat.Body2"
    android:textSize="16sp" />
  <RadioGroup
    android:id="@+id/gender"
    android:layout_width="match_parent"
    android:layout_height="99dp">
    <RadioButton
       android:id="@+id/male"
       android:layout_width="match_parent"
       android:layout_height="wrap_content"
       android:backgroundTint="#00BCD4"
       android:text="Male" />
```

```
<RadioButton
      android:id="@+id/female"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:backgroundTint="#00BCD4"
      android:text="Female" />
    <Button
      android:id="@+id/validate"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:text="SUBMIT" />
  </RadioGroup>
  <Button
    android:id="@+id/validate1"
    android:layout width="match parent"
    android:layout_height="wrap_content"
    android:backgroundTint="#009688"
    android:text="SUBMIT"
    android:textSize="20sp" />
</LinearLayout>
```

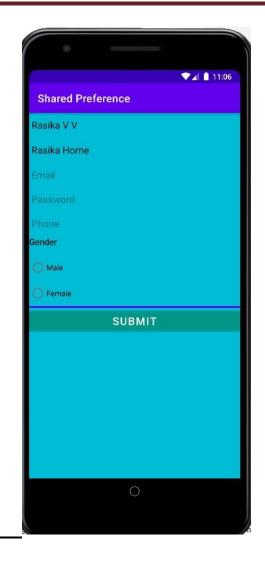
```
MainActivity2.java
                    package com.example.sharedpreference;
                    import androidx.appcompat.app.AppCompatActivity;
                    import android.os.Bundle;
                    import android.content.Intent;
                    import android.widget.TextView;
                    import android.view.View;
                    import android.widget.Toast;
                    public class MainActivity2 extends AppCompatActivity {
                       @Override
                       protected void onCreate(Bundle savedInstanceState) {
                         TextView t1,t2,t3;
                         super.onCreate(savedInstanceState);
                         setContentView(R.layout.activity main2);
                         Bundle extras = getIntent().getExtras();
                         t1=(TextView) findViewById(R.id.textView3);
```

```
t2=(TextView) findViewById(R.id.textView4);
                         t3=(TextView) findViewById(R.id.textView5);
                         String value1 = extras.getString("1");
                         String value2 = extras.getString("2");
                         String value3 = extras.getString("3");
                         t1.setText(value1);
                         t2.setText("Address is "+ value3);
                         t3.setText("Email is "+ value2);
                       public void callFirstActivity(View view){
                         Intent i = new Intent(getApplicationContext(), MainActivity.class);
                         startActivity(i);
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:id="@+id/textView2"
                         android:layout_width="165dp"
                         android:layout_height="44dp"
                         android:layout_marginStart="8dp"
                         android:layout_marginTop="8dp"
                         android:layout_marginEnd="8dp"
                         android:text="WELCOME.....!!!!!"
                         android:textColor="#8F2525"
                         android:textSize="16sp"
                         app:layout_constraintBottom_toBottomOf="parent"
                         app:layout_constraintEnd_toEndOf="parent"
                         app:layout_constraintHorizontal_bias="0.454"
                         app:layout_constraintLeft_toLeftOf="parent"
                         app:layout_constraintRight_toRightOf="parent"
                         app:layout_constraintStart_toStartOf="parent"
                         app:layout_constraintTop_toTopOf="parent"
                         app:layout_constraintVertical_bias="0.06" />
                       <TextView
                         android:id="@+id/textView3"
```

```
android:layout width="149dp"
    android:layout_height="52dp"
    android:backgroundTint="#AA5C77"
    android:text="TextView"
    android:textColor="#06D8F3"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.461"
    app:layout constraintStart toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout constraintVertical bias="0.229" />
  <TextView
    android:id="@+id/textView4"
    android:layout_width="147dp"
    android:layout_height="52dp"
    android:text="TextView"
    android:textColor="#D310F4"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.465"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.369" />
  <TextView
    android:id="@+id/textView5"
    android:layout_width="146dp"
    android:layout_height="50dp"
    android:text="TextView"
    android:textColor="#F80D5D"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.467"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent"
    app:layout_constraintVertical_bias="0.499" />
</androidx.constraintlayout.widget.ConstraintLayout>
```







<u>RESULT:</u> The above program is successfully executed and obtained the output.

AIM: Design a simple Calculator using GridLayout and Cascaded LinearLayout.

PROGRAM CODE

```
MainActivity.java
                     package com.example.gridcalculator;
                     import android.os.Bundle;
                    import androidx.appcompat.app.AppCompatActivity;
                    import android.view.View;
                    import android.widget.Button;
                     import android.widget.EditText;
                     public class MainActivity extends AppCompatActivity {
                      Button button0, button1, button2, button3, button4, button5,
                           button6,
                           button7, button8, button9, buttonAdd, buttonSub,
                           button Division.
                           buttonMul, buttond, buttonC, buttonEqual,buttonperc;
                      EditText cEditText;
                      float mValueOne, mValueTwo;
                      boolean cAddition, mSubtract, cMultiplication, cDivision, cperc;
                      @Override
                      protected void onCreate(Bundle savedInstanceState) {
                         super.onCreate(savedInstanceState);
                         setContentView(R.layout.activity_main);
                         button0 = (Button) findViewById(R.id.button15);
                         button1 = (Button) findViewById(R.id.button8);
                         button2 = (Button) findViewById(R.id.button14);
                         button3 = (Button) findViewById(R.id.button18);
                         button4 = (Button) findViewById(R.id.button7);
                         button5 = (Button) findViewById(R.id.button13);
                         button6 = (Button) findViewById(R.id.button16);
                         button7 = (Button) findViewById(R.id.button6);
                         button8 = (Button) findViewById(R.id.button10);
                         button9 = (Button) findViewById(R.id.button11);
                         buttond = (Button) findViewById(R.id.button19);
                         buttonAdd = (Button) findViewById(R.id.button20);
                         buttonSub = (Button) findViewById(R.id.button17);
                         buttonMul = (Button) findViewById(R.id.button12);
                         buttonDivision = (Button) findViewById(R.id.button5);
                         buttonC = (Button) findViewById(R.id.button2);
                         buttonperc = (Button) findViewById(R.id.button4);
```

```
buttonEqual = (Button) findViewById(R.id.button21);
cEditText = (EditText) findViewById(R.id.edt1);
button1.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    cEditText.setText(cEditText.getText() + "1");
});
button2.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    cEditText.setText(cEditText.getText() + "2");
});
button3.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    cEditText.setText(cEditText.getText() + "3");
});
button4.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    cEditText.setText(cEditText.getText() + "4");
});
button5.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    cEditText.setText(cEditText.getText() + "5");
});
button6.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    cEditText.setText(cEditText.getText() + "6");
});
button7.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    cEditText.setText(cEditText.getText() + "7");
});
button8.setOnClickListener(new View.OnClickListener() {
```

```
@Override
  public void onClick(View v) {
    cEditText.setText(cEditText.getText() + "8");
});
button9.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    cEditText.setText(cEditText.getText() + "9");
});
button0.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    cEditText.setText(cEditText.getText() + "0");
});
buttonAdd.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    if (cEditText == null) {
       cEditText.setText("");
    } else {
       mValueOne = Float.parseFloat(cEditText.getText() +
            ""):
       cAddition = true;
       cEditText.setText(null);
});
buttonSub.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    mValueOne = Float.parseFloat(cEditText.getText() +
         ""):
    mSubtract = true;
    cEditText.setText(null);
  }
});
buttonMul.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    mValueOne = Float.parseFloat(cEditText.getText() +
         "");
    cMultiplication = true;
```

```
cEditText.setText(null);
  }
});
buttonDivision.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    mValueOne = Float.parseFloat(cEditText.getText() +
    cDivision = true;
    cEditText.setText(null);
});
buttonperc.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    mValueOne = Float.parseFloat(cEditText.getText() +
    cperc = true;
    cEditText.setText(null);
});
buttonEqual.setOnClickListener(new View.OnClickListener() {
  @Override
  public void onClick(View v) {
    mValueTwo = Float.parseFloat(cEditText.getText() +
    if (cAddition == true) {
       cEditText.setText(mValueOne + mValueTwo + "");
       cAddition = false;
    if (mSubtract == true) {
       cEditText.setText(mValueOne - mValueTwo + "");
       mSubtract = false;
    if (cMultiplication == true) {
       cEditText.setText(mValueOne * mValueTwo + "");
       cMultiplication = false;
    if (cDivision == true) {
       cEditText.setText(mValueOne / mValueTwo + "");
       cDivision = false;
    if (cperc == true) {
       cEditText.setText((mValueOne / mValueTwo)*100 +
```

```
cperc = false;
}
}
});
buttonC.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        cEditText.setText("");
    }
});
buttond.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View v) {
        cEditText.setText(cEditText.getText() + ".");
    }
});
}
```

```
activity_main.xml
                     <?xml version="1.0" encoding="utf-8"?>
                    <androidx.constraintlayout.widget.ConstraintLayout</p>
                      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:background="#F6CACA"
                      tools:context=".MainActivity">
                      <android.widget.GridLayout
                        android:id="@+id/gridLayout"
                        android:layout_width="398dp"
                        android:layout_height="496dp"
                        android:layout_marginStart="1dp"
                        android:layout_marginTop="45dp"
                        android:layout_marginEnd="1dp"
                        app:layout_constraintEnd_toEndOf="parent"
                        app:layout_constraintStart_toStartOf="parent"
                        app:layout_constraintTop_toBottomOf="@+id/edt1">
                        <Button
                          android:id="@+id/button2"
                           android:layout_width="100dp"
                           android:layout_height="60dp"
                           android:text="C"
                           android:textSize="20sp"
```

```
app:layout column="0"
  app:layout_row="0" />
<Button
  android:id="@+id/button3"
  android:layout width="98dp"
  android:layout_height="60dp"
  android:text="()"
  android:textSize="20sp"
  app:layout_column="1"
  app:layout_row="0" />
<Button
  android:id="@+id/button4"
  android:layout width="wrap content"
  android:layout_height="60dp"
  android:text="%"
  android:textSize="20sp"
  app:layout_column="2"
  app:layout_row="0" />
<Button
  android:id="@+id/button5"
  android:layout_width="121dp"
  android:layout_height="64dp"
  android:layout row="0"
  android:layout_column="3"
  android:text="/"
  android:textSize="20sp"
  app:layout column="3"
  app:layout_row="0" />
<Button
  android:id="@+id/button6"
  android:layout_width="91dp"
  android:layout_height="59dp"
  android:layout_row="1"
  android:layout_column="0"
  android:text="7"
  android:textSize="20sp"
  app:layout_column="0"
  app:layout_row="1" />
<Button
  android:id="@+id/button7"
  android:layout_width="wrap_content"
  android:layout_height="60dp"
  android:layout_row="2"
  android:layout_column="1"
  android:text="4"
```

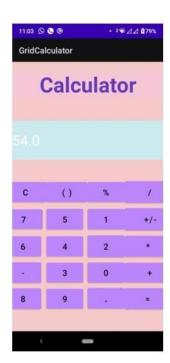
```
android:textSize="20sp"
  app:layout_column="0"
  app:layout row="2"/>
<Button
  android:id="@+id/button8"
  android:layout_width="wrap_content"
  android:layout_height="61dp"
  android:layout_row="1"
  android:layout_column="2"
  android:text="1"
  android:textSize="20sp"
  app:layout_column="0"
  app:layout_row="3" />
<Button
  android:id="@+id/button9"
  android:layout_width="123dp"
  android:layout height="65dp"
  android:text="+/-"
  android:textSize="20sp"
  app:layout_column="0"
  app:layout_row="4" />
<Button
  android:id="@+id/button10"
  android:layout_width="wrap_content"
  android:layout_height="61dp"
  android:layout_row="4"
  android:layout column="0"
  android:text="8"
  android:textSize="20sp"
  app:layout_column="1"
  app:layout_row="1" />
<Button
  android:id="@+id/button11"
  android:layout_width="wrap_content"
  android:layout_height="59dp"
  android:layout_row="4"
  android:layout column="1"
  android:text="9"
  android:textSize="20sp"
  app:layout_column="2"
  app:layout_row="1" />
<Button
  android:id="@+id/button12"
  android:layout_width="113dp"
  android:layout_height="62dp"
```

```
android:layout_row="2"
  android:layout column="3"
  android:text="*"
  android:textSize="20sp"
  app:layout column="3"
  app:layout_row="1" />
<Button
  android:id="@+id/button13"
  android:layout_width="wrap_content"
  android:layout_height="61dp"
  android:layout_row="1"
  android:layout_column="1"
  android:text="5"
  android:textSize="20sp"
  app:layout_column="1"
  app:layout_row="2" />
<Button
  android:id="@+id/button14"
  android:layout_width="wrap_content"
  android:layout_height="64dp"
  android:layout_row="2"
  android:layout_column="2"
  android:text="2"
  android:textSize="20sp"
  app:layout_column="1"
  app:layout_row="3" />
<Button
  android:id="@+id/button15"
  android:layout_width="wrap_content"
  android:layout_height="60dp"
  android:layout_row="3"
  android:layout_column="2"
  android:text="0"
  android:textSize="20sp"
  app:layout_column="1"
  app:layout_row="4" />
<Button
  android:id="@+id/button16"
  android:layout_width="wrap_content"
  android:layout_height="60dp"
  android:layout_row="2"
  android:layout_column="0"
  android:text="6"
  android:textSize="20sp"
  app:layout_column="2"
```

```
app:layout_row="2" />
<Button
  android:id="@+id/button17"
  android:layout_width="wrap_content"
  android:layout height="61dp"
  android:layout_row="3"
  android:layout column="0"
  android:text="-"
  android:textSize="20sp"
  app:layout_column="3"
  app:layout_row="2" />
<Button
  android:id="@+id/button18"
  android:layout_width="wrap_content"
  android:layout_height="59dp"
  android:text="3"
  android:textSize="20sp"
  app:layout_column="2"
  app:layout_row="3" />
<Button
  android:id="@+id/button19"
  android:layout_width="wrap_content"
  android:layout height="61dp"
  android:layout_row="4"
  android:layout column="2"
  android:text="."
  android:textSize="24sp"
  app:layout_column="2"
  app:layout_row="4" />
<Button
  android:id="@+id/button20"
  android:layout_width="121dp"
  android:layout_height="59dp"
  android:layout_row="3"
  android:layout column="3"
  android:text="+"
  android:textSize="20sp"
  app:layout_column="3"
  app:layout_row="3" />
<Button
  android:id="@+id/button21"
  android:layout_width="111dp"
  android:layout_height="62dp"
  android:layout_row="4"
  android:layout_column="3"
```

```
android:text="="
      android:textSize="20sp"
      app:layout column="3"
      app:layout_row="4" />
 </android.widget.GridLayout>
 <EditText
   android:id="@+id/edt1"
   android:layout_width="423dp"
   android:layout_height="93dp"
   android:layout_marginTop="140dp"
   android:layout_marginBottom="95dp"
   android:background="#A3D4DA"
   android:backgroundTint="#CCEBEF"
   android:textSize="34sp"
   app:layout_constraintBottom_toTopOf="@+id/gridLayout"
   app:layout_constraintEnd_toEndOf="parent"
   app:layout constraintHorizontal bias="0.0"
   app:layout_constraintStart_toStartOf="parent"
   app:layout_constraintTop_toTopOf="parent"
   app:layout_constraintVertical_bias="1.0"
   tools:ignore="MissingConstraints" />
 <EditText
   android:id="@+id/editTextTextPersonName2"
   android:layout_width="406dp"
   android:layout_height="61dp"
   android:layout_marginStart="1dp"
   android:layout marginTop="15dp"
   android:layout_marginBottom="42dp"
   android:background="#F6C7D7"
   android:ems="10"
   android:foregroundGravity="center"
   android:gravity="center"
   android:inputType="textPersonName"
   android:text="Calculator"
   android:textColor="#673AB7"
   android:textSize="50sp"
   android:textStyle="bold"
   app:layout_constraintBottom_toTopOf="@+id/edt1"
   app:layout_constraintEnd_toEndOf="parent"
   app:layout_constraintStart_toStartOf="parent"
   app:layout_constraintTop_toTopOf="parent"
   android:layout_marginLeft="1dp" />
</androidx.constraintlayout.widget.ConstraintLayout>
```





9*6=54.0

RESULT: The above program is successfully executed and obtained the output.

AIM: Create a Facebook page using RelativeLayout; set properties using .xml file.

PROGRAM CODE

```
activity_main.x
                <?xml version="1.0" encoding="utf-8"?>
ml
                <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">
                  <ImageView
                     android:id="@+id/imageView3"
                     android:layout_width="309dp"
                     android:layout_height="130dp"
                     android:layout_centerHorizontal="true"
                     app:srcCompat="@drawable/fb_logo"/>
                  <ImageView
                     android:id="@+id/imageView7"
                     android:layout_width="110dp"
                     android:layout_height="wrap_content"
                     android:layout_below="@+id/imageView3"
                     android:layout_alignParentLeft="false"
                     android:layout_marginTop="23dp"
                     app:srcCompat="@drawable/emojii" />
                  <TextView
                     android:id="@+id/editText1"
                     android:layout_width="wrap_content"
                     android:layout_height="wrap_content"
                     android:layout alignLeft="@id/imageView7"
                     android:layout_alignBottom="@id/imageView7"
                     android:layout_alignParentBottom="false"
                     android:layout marginLeft="134dp"
                     android:layout_marginBottom="11dp"
                     android:layout toRightOf="@id/imageView7"
                     android:ems="10"
```

```
android:fontFamily="sans-serif-black"
android:inputType="textPersonName"
android:text="RASIKA"
android:textSize="20dp" />

<CheckBox
android:id="@+id/check1"
android:layout_width="217dp"
android:layout_height="26dp"
android:layout_below="@id/imageView7"
android:layout_marginTop="63dp"
android:layout_marginBottom="56dp"
android:text="Log In" />

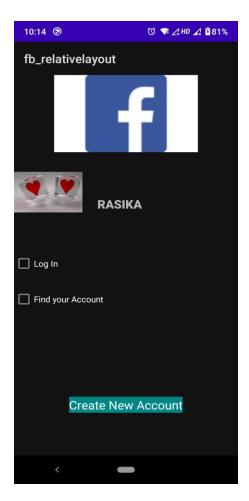
<CheckBox
android:layout_width="217dp"
```

android:layout_width="217dp" android:layout_height="26dp" android:layout_alignTop="@+id/check1" android:layout_marginTop="60dp" android:layout_marginBottom="56dp" android:text="Find your Account" />

<EditText

android:layout_width="wrap_content" android:layout_height="wrap_content" android:layout_alignParentBottom="true" android:layout_centerInParent="true" android:layout_centerVertical="true" android:layout_marginBottom="72dp" android:background="@color/teal_700" android:text="Create New Account" android:textColor="@color/white" android:textSize="20dp" />

</RelativeLayout>



RESULT: The above program is successfully executed and obtained the output.

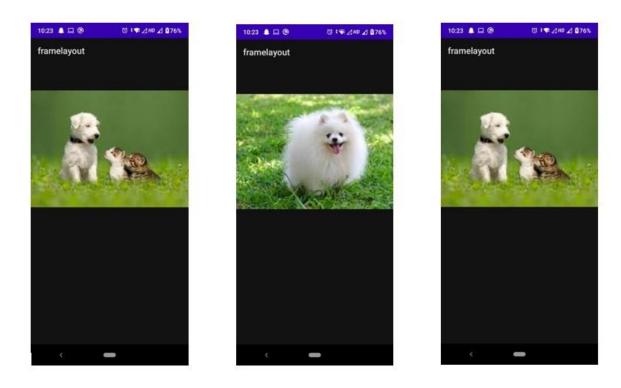
AIM: Develop an application that toggles image using FrameLayout.

PROGRAM CODE:

```
Main_Activity.ja
                  package com.example.framelayout;
va
                  import androidx.appcompat.app.AppCompatActivity;
                  import android.os.Bundle;
                  import android.view.View;
                  import android.widget.ImageView;
                     public class MainActivity extends AppCompatActivity implements
                  View.OnClickListener {
                       ImageView i1,i2;
                       @Override
                       protected void onCreate(Bundle savedInstanceState) {
                         super.onCreate(savedInstanceState);
                          setContentView(R.layout.activity_main);
                         i1=(ImageView) findViewById(R.id.imageView1);
                         i2=(ImageView) findViewById(R.id.imageView2);
                         i1.setOnClickListener(this);
                         i2.setOnClickListener(this);
                       @Override
                       public void onClick(View v) {
                         if(v.getId()==R.id.imageView1)
                            i1.setVisibility(v.GONE);
                            i2.setVisibility(v.VISIBLE);
                         else
                            i2.setVisibility(v.GONE);
                            i1.setVisibility(v.VISIBLE);
```

}

```
activity_main.xm
                  <?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/imageView1"
                       android:layout_width="400dp"
                       android:layout_height="392dp"
                       app:srcCompat="@drawable/emojii"
                       android:layout_gravity="left|top"/>
                    <ImageView
                       android:id="@+id/imageView2"
                       android:layout_width="396dp"
                       android:layout_height="400dp"
                       app:srcCompat="@drawable/asd"
                       android:layout_gravity="left|top"
                       android:visibility="gone"/>
                    <FrameLayout
                       android:layout_width="match_parent"
                       android:layout_height="match_parent">
                    </FrameLayout>
                  </FrameLayout>
```



RESULT: The above program is successfully executed and obtained the output.