

## **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;

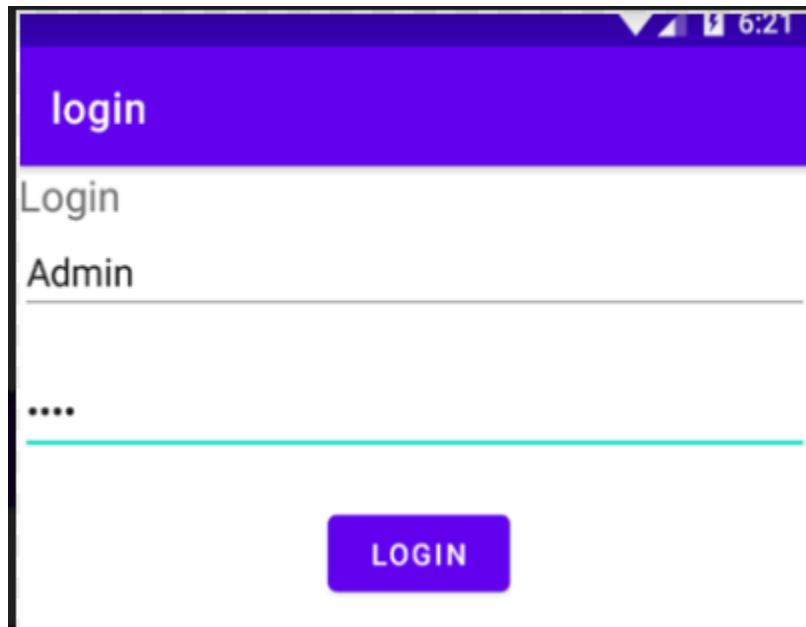
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

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
successful",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
```

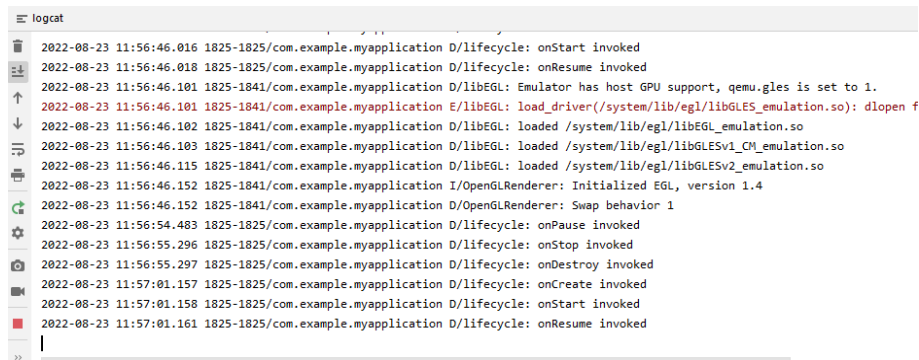
```

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**



```

logcat
2022-08-23 11:56:46.016 1825-1825/com.example.myapplication D/lifecycle: onStart invoked
2022-08-23 11:56:46.018 1825-1825/com.example.myapplication D/lifecycle: onResume invoked
2022-08-23 11:56:46.101 1825-1841/com.example.myapplication D/libEGL: Emulator has host GPU support, qemu.gles is set to 1.
2022-08-23 11:56:46.101 1825-1841/com.example.myapplication E/libEGL: load_driver(/system/lib/egl/libGLES_emulation.so): dlopen f
2022-08-23 11:56:46.102 1825-1841/com.example.myapplication D/libEGL: loaded /system/lib/egl/libEGL_emulation.so
2022-08-23 11:56:46.103 1825-1841/com.example.myapplication D/libEGL: loaded /system/lib/egl/libGLESv1_CM_emulation.so
2022-08-23 11:56:46.115 1825-1841/com.example.myapplication D/libEGL: loaded /system/lib/egl/libGLESv2_emulation.so
2022-08-23 11:56:46.152 1825-1841/com.example.myapplication I/OpenGLESv2: Initialized EGL, version 1.4
2022-08-23 11:56:46.152 1825-1841/com.example.myapplication D/OpenGLESv2: Swap behavior 1
2022-08-23 11:56:54.483 1825-1825/com.example.myapplication D/lifecycle: onPause invoked
2022-08-23 11:56:55.296 1825-1825/com.example.myapplication D/lifecycle: onStop invoked
2022-08-23 11:56:55.297 1825-1825/com.example.myapplication D/lifecycle: onDestroy invoked
2022-08-23 11:57:01.157 1825-1825/com.example.myapplication D/lifecycle: onCreate invoked
2022-08-23 11:57:01.158 1825-1825/com.example.myapplication D/lifecycle: onStart invoked
2022-08-23 11:57:01.161 1825-1825/com.example.myapplication D/lifecycle: onResume invoked

```

## **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);
    }
}

```

```

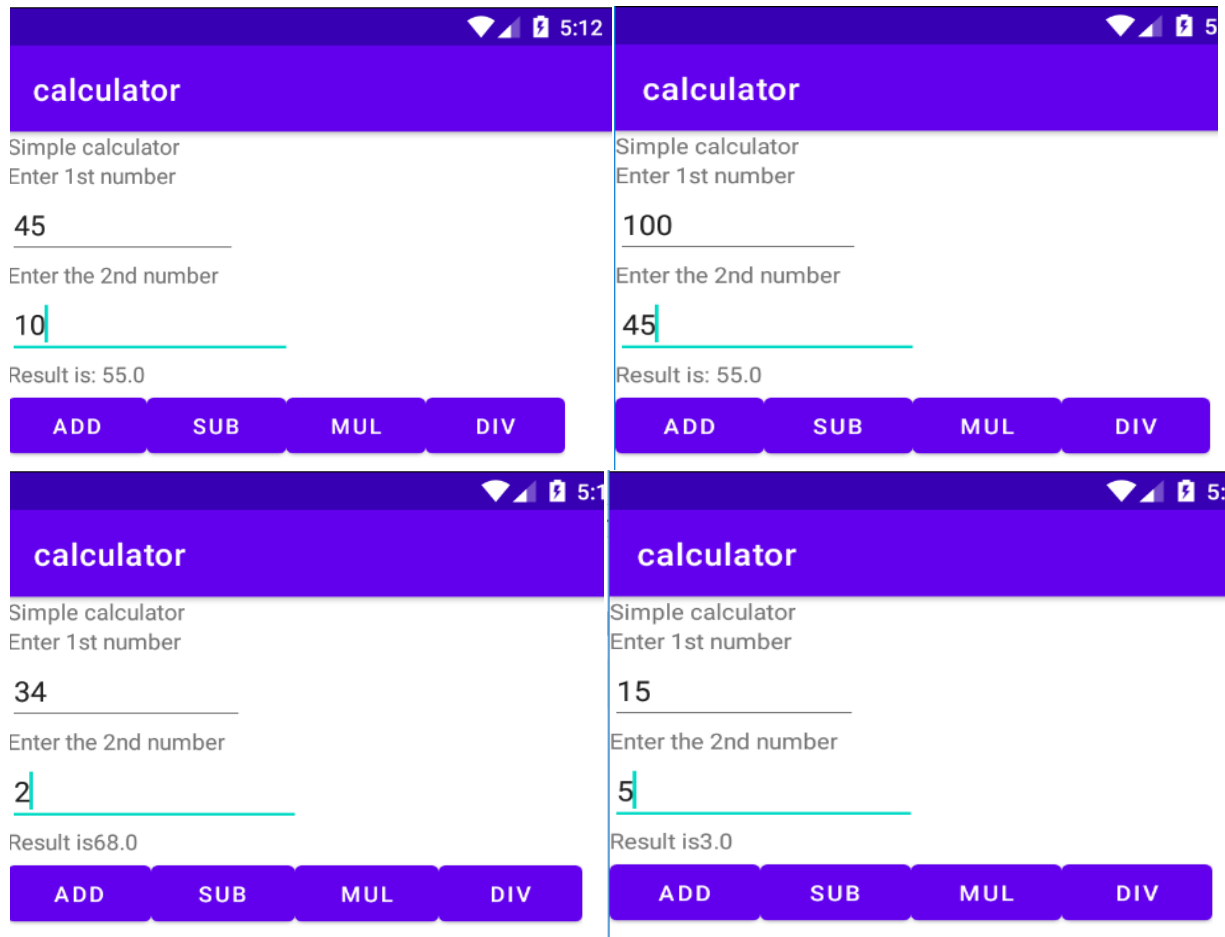
Button mul=findViewById(R.id.b3);
Button div=findViewById(R.id.b4);
TextView tv1=findViewById(R.id.t1);
add.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Double a1 = Double.parseDouble(t1.getText().toString());
        Double a2 = Double.parseDouble(t2.getText().toString());
        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**



**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 mobileneno;
    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

validation

REGISTRATION

Reshma Ramesh

MOBILE NUMBER

23

GENDER

☐ Male

☒ Female

SUBMIT

☒ i agree all terms and conditions

please enter mobile number

## **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;

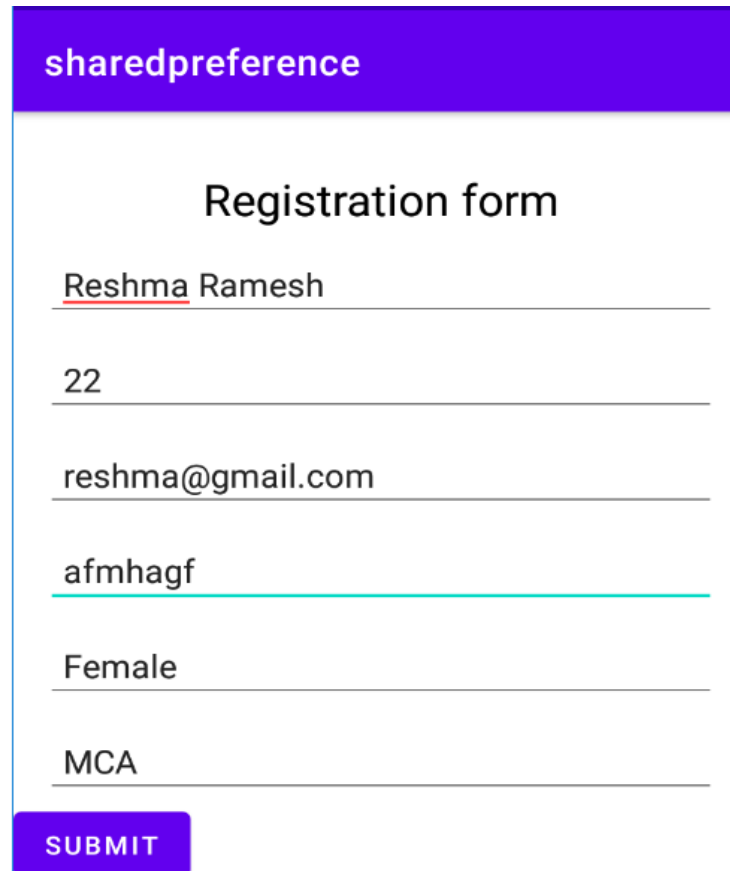
import android.os.Bundle;

public class MainActivity2 extends AppCompatActivity {

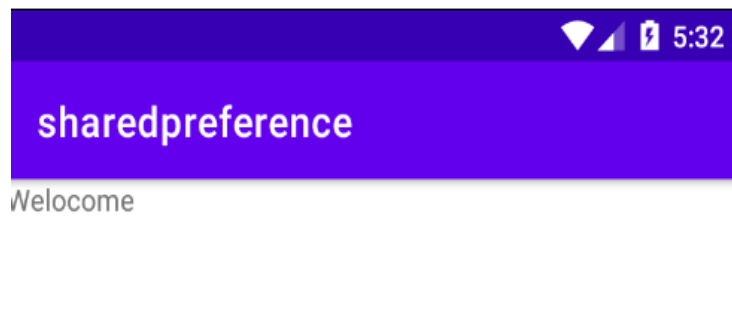
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main2);
    }
}
```

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

## **OUTPUT**



A screenshot of an Android application interface. At the top is a purple header bar with the text "sharedpreference" in white. Below the header is a white area with the title "Registration form" in black. There are six text input fields, each with a horizontal line underneath. The first field contains "Reshma Ramesh" with a red underline. The second field contains "22". The third field contains "reshma@gmail.com". The fourth field contains "afmhagf" with a cyan underline. The fifth field contains "Female". The sixth field contains "MCA". At the bottom left of the white area is a purple button with the text "SUBMIT" in white.



A screenshot of an Android application interface. At the top is a purple header bar with the text "sharedpreference" in white. Below the header is a white area with the text "Welocome" in gray. At the bottom of the white area is a horizontal line. In the top right corner of the screen, there is a status bar with icons for Wi-Fi, signal strength, and battery, along with the time "5:32".

**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) {

```

```

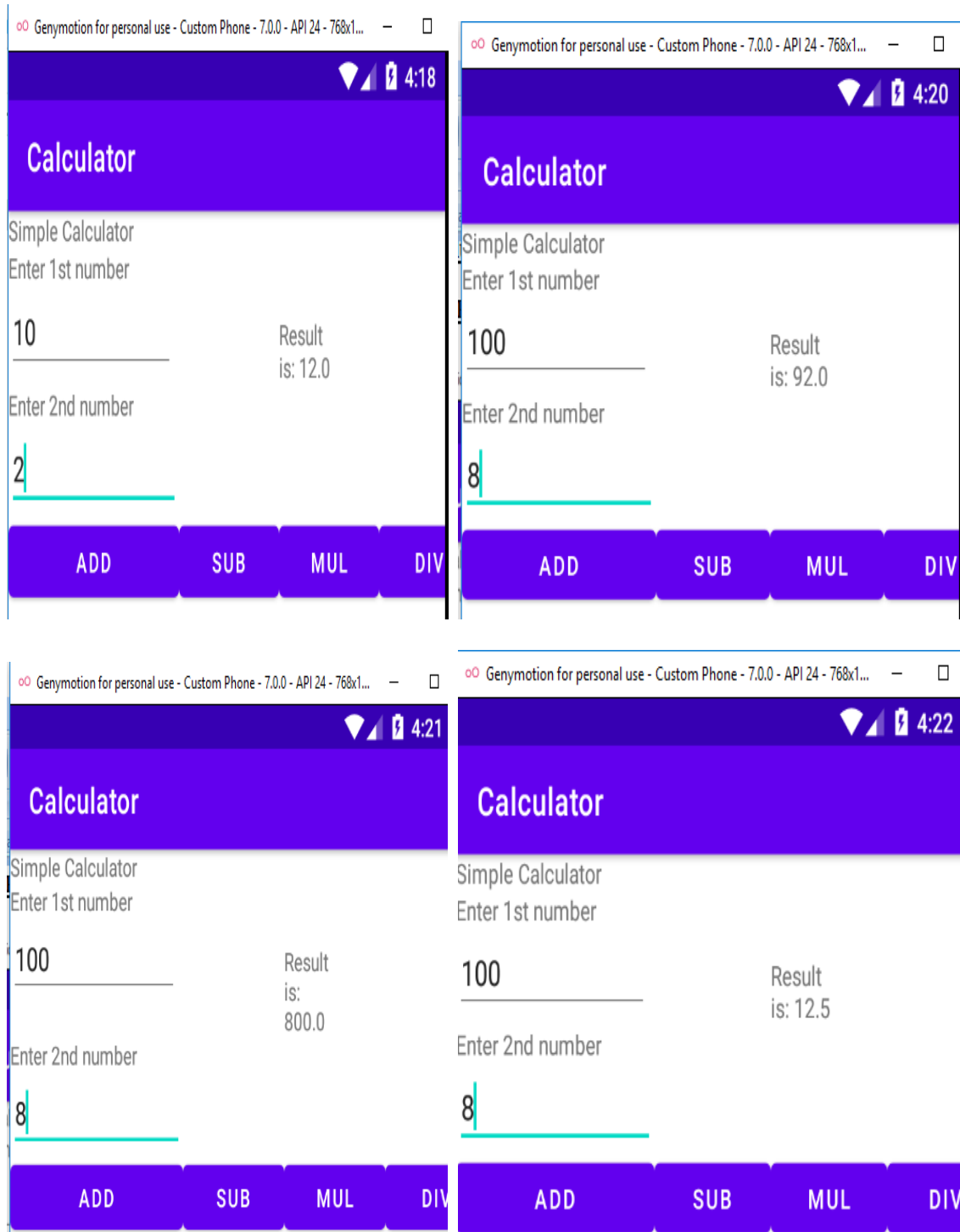
super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
EditText t1=findViewById(R.id.n1);
EditText t2=findViewById(R.id.n2);
Button add=findViewById(R.id.b1);
Button sub=findViewById(R.id.b2);
Button mul=findViewById(R.id.b3);
Button div=findViewById(R.id.b4);
TextView tv1=findViewById(R.id.t1);

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**





**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"/>
    </RelativeLayout>

```

```

        </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;

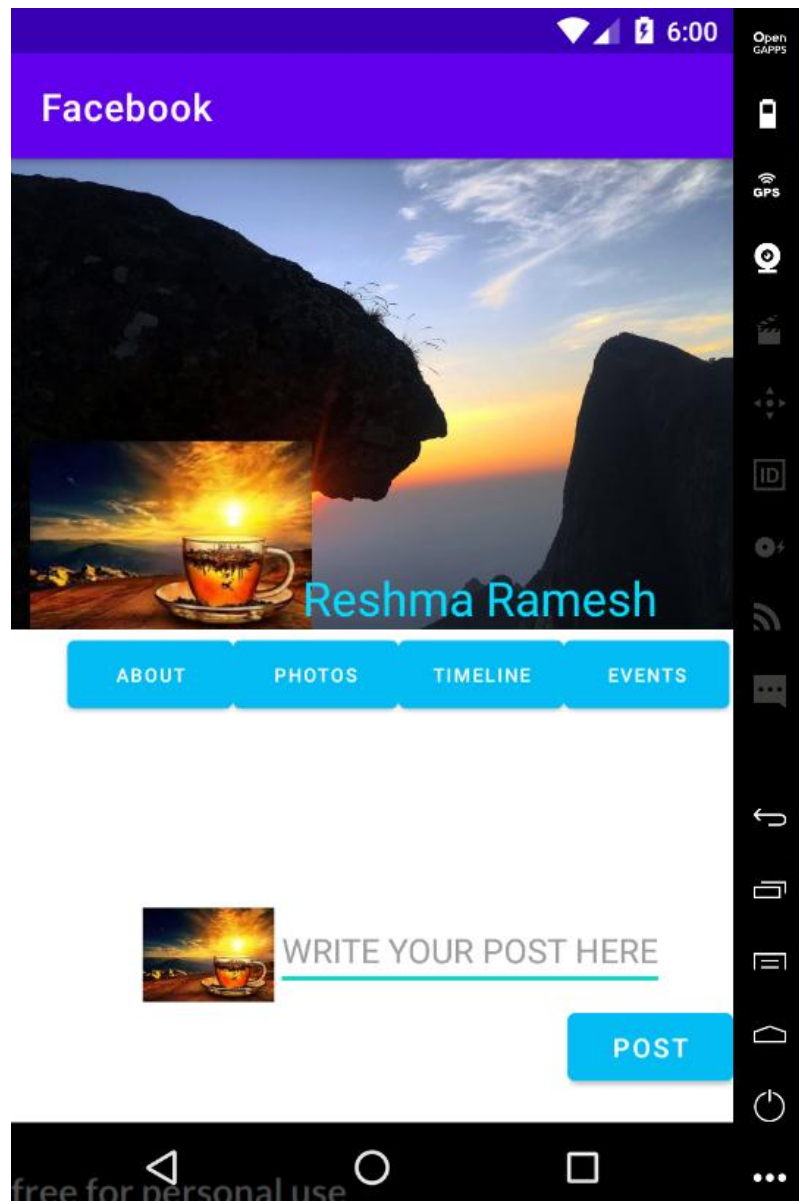
public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
    }
}

```

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

## **OUTPUT**



**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);
```

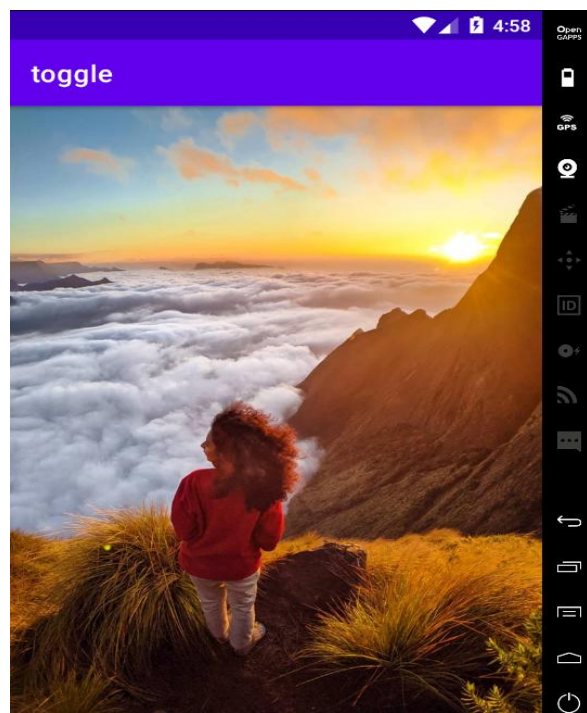
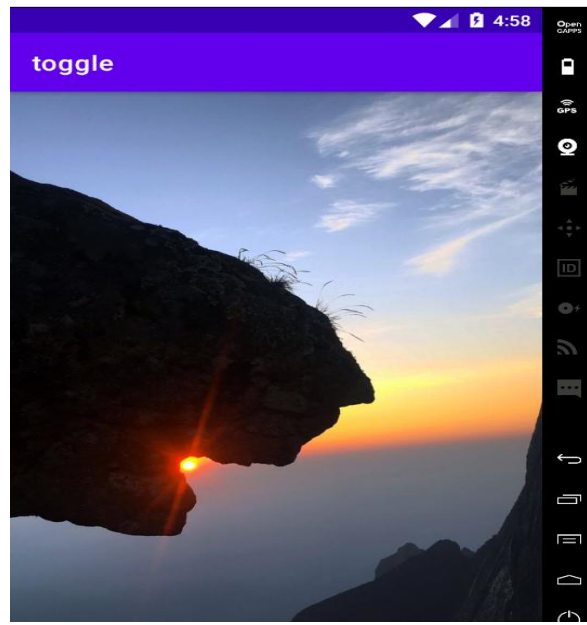
```

        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);

        }

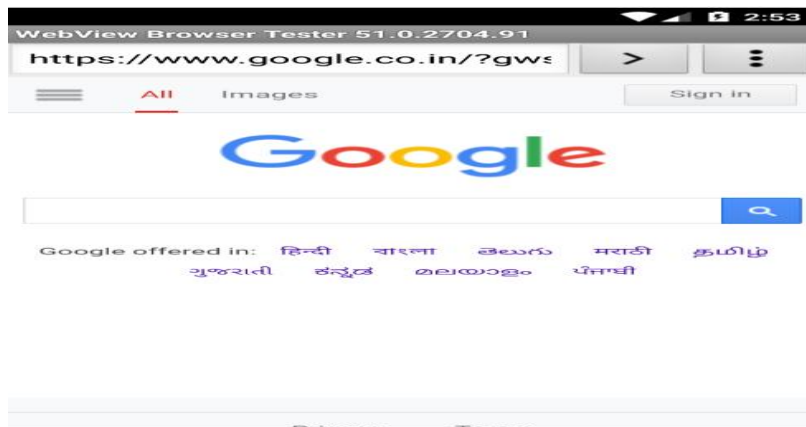
    });

}

}

**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>
</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.item3:
                Toast.makeText(getApplicationContext(), "Cut
selected", Toast.LENGTH_SHORT).show();
                break;
        }
    }
}

```

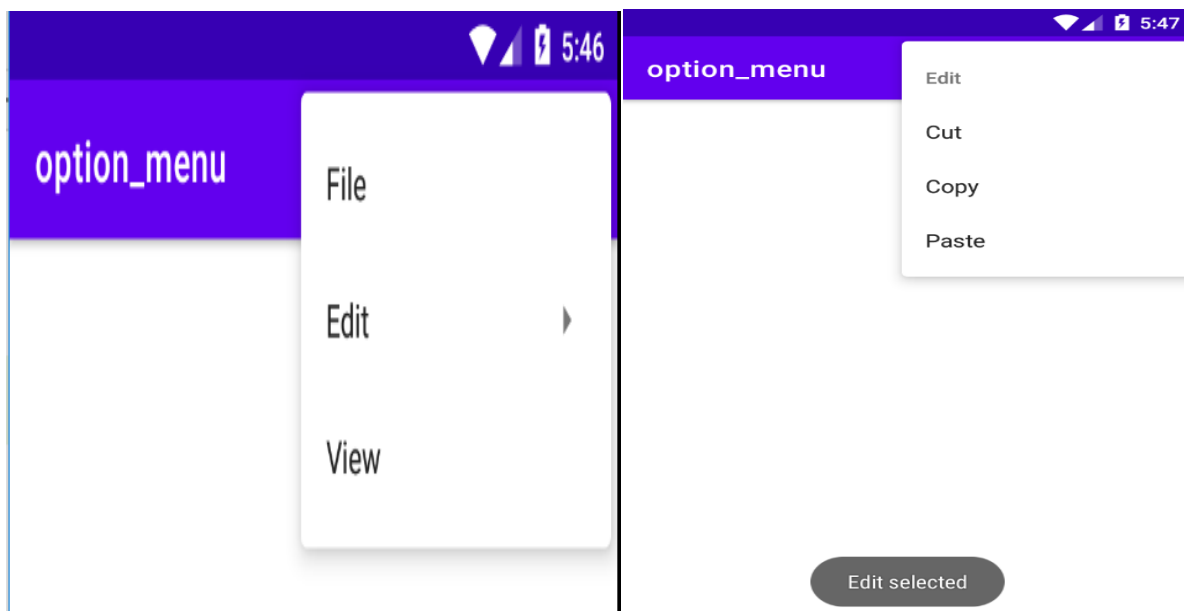
```

        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/l1">
    </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.l1);
        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**

