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

Program Code:

activity.xml

```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

```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 {
```

```java
@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();
        }
    });
    }

}
```

Result: Program compiled successfully and output verified.

OUTPUT

Program No: 02   **Date:19-08-2022**
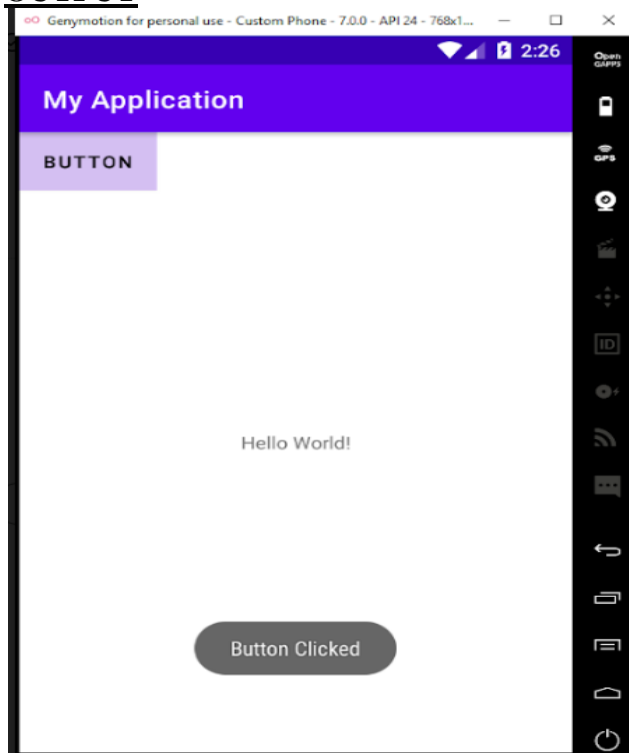
Aim: Design a login form with Username and Password using linear layout and toast valid credentials.

Program Code:

activity.xml

```xml
<?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

```java
package com.example.pgm2;
import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        EditText et1=findViewById(R.id.et1);
        EditText et2=findViewById(R.id.et2);
        Button button=findViewById(R.id.btn);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                validate(et1.getText().toString(),et2.getText().toString());
            }
            private void validate(String us,String pw)
            {
                if(us.equals("admin")&&pw.equals("1234"))
                {
                    Toast.makeText(getApplicationContext(),"Login
successfull",Toast.LENGTH_LONG).show();
                }
                else
                {
                    Toast.makeText(getApplicationContext(),"Unsuccessfull
login",Toast.LENGTH_LONG).show();
                }
            }
        });
    }
}
```
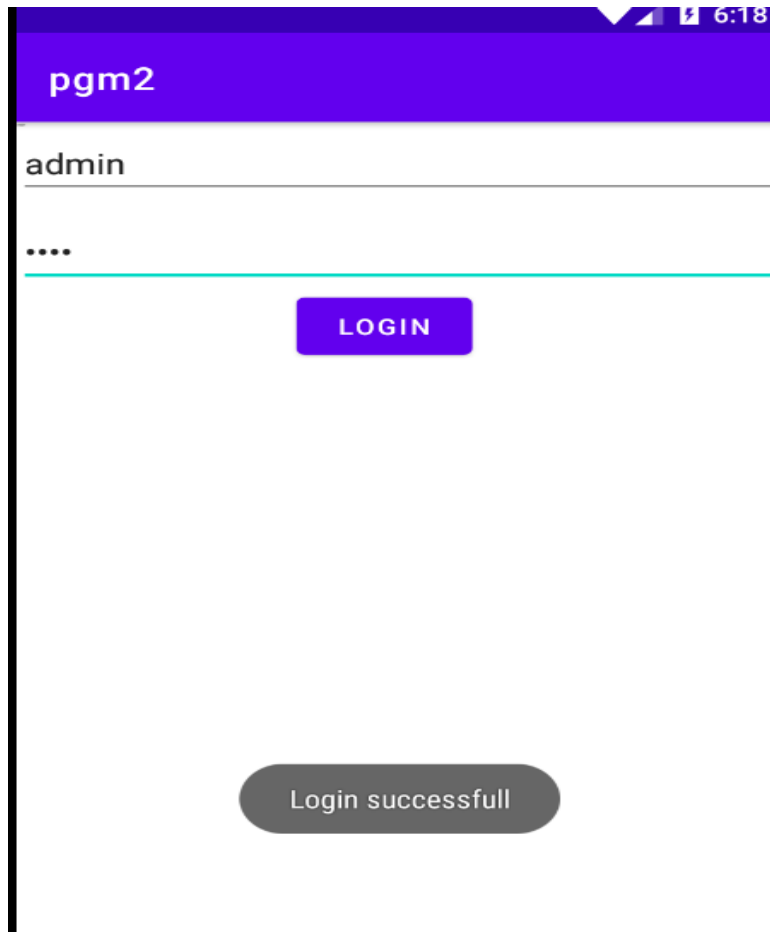
Result: Program compiled successfully and output verified.

Output

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

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

Program Code:

activity.xml

```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

```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");
```
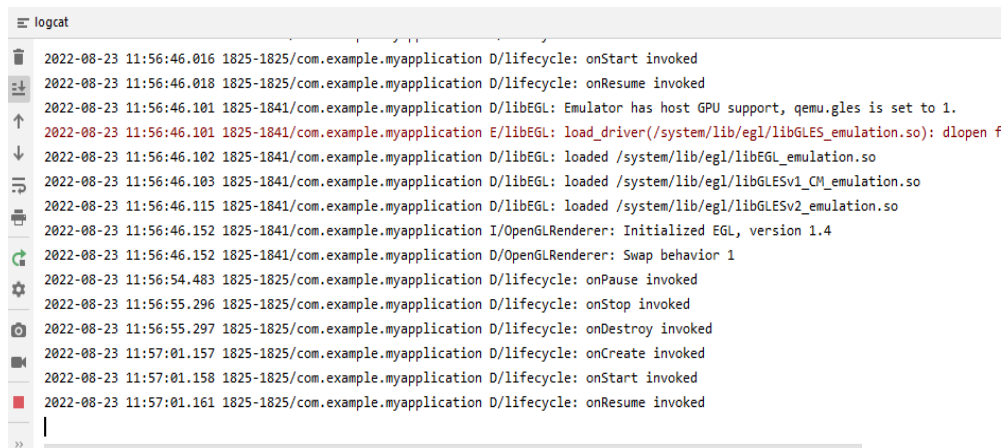
```java
    }
    @Override
    protected void onResume() {
        super.onResume();
        Log.d("lifecycle","onResume invoked");
    }
    @Override
    protected void onPause() {
        super.onPause();
        Log.d("lifecycle","onPause invoked");
    }
    @Override
    protected void onStop() {
        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/OpenGLRenderer: Initialized EGL, version 1.4
  2022-08-23 11:56:46.152 1825-1841/com.example.myapplication D/OpenGLRenderer: 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: 04   **Date:14-09-2022**

Aim:Implementing basic arithmetic operation of a simple calculator.

Program Code:

activity.xml

```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"
```

```xml
          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

```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);
```
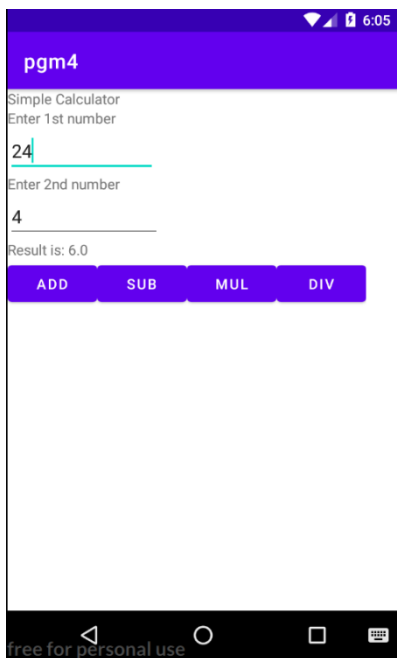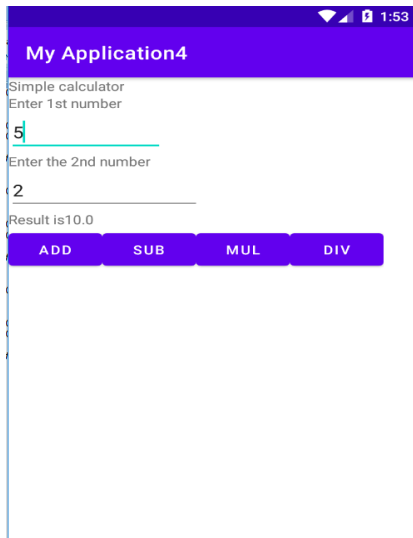
```java
        Button mul=findViewById(R.id.b3);
        Button div=findViewById(R.id.b4);
        TextView tv1=findViewById(R.id.t1);
        add.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Double a1 = Double.parseDouble(t1.getText().toString());
                Double a2 = Double.parseDouble(t2.getText().toString());
                Double r = a1 + a2;
                tv1.setText("Result is: " + String.valueOf(r));
            }
        });
        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Double s1=Double.parseDouble(t1.getText().toString());
                Double s2=Double.parseDouble(t2.getText().toString());
                Double r=s1-s2;
                tv1.setText("Result is: "+String.valueOf(r));
            }
        });
        mul.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Double m1 = Double.parseDouble(t1.getText().toString());
                Double m2 = Double.parseDouble(t2.getText().toString());
                Double r = m1 * m2;
                tv1.setText("Result is" + String.valueOf(r));

            }
        });
        div.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Double d1=Double.parseDouble(t1.getText().toString());
                Double d2=Double.parseDouble(t2.getText().toString());
                Double r=d1/d2;
                tv1.setText("Result is" +String.valueOf(r));
            }
        });


    }

}
```

Result: Program compiled successfully and output verified.

Output

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

Aim:Implement validation on various UI controls.

Program Code:

activity.xml

```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"
```

```xml
        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

```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;
```

```java
    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
<?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
```java
package com.example.myapplication5;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class login extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_login);
    }
}
```
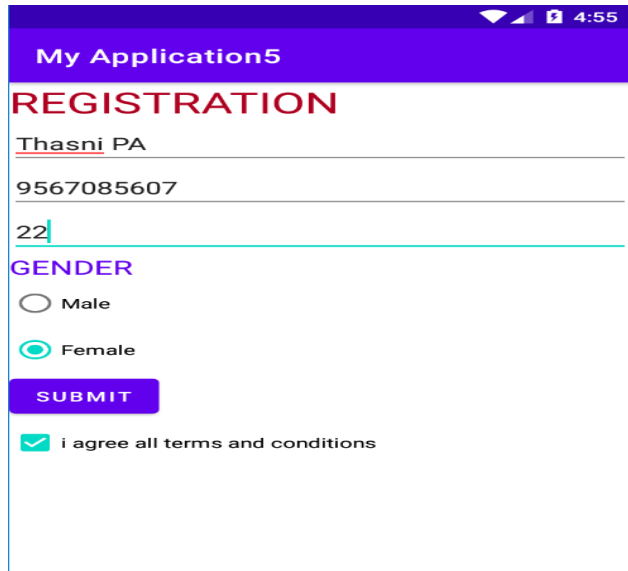
Result: Program compiled successfully and output verified.

Output

Program No: 06   **Date:20-09-2022**
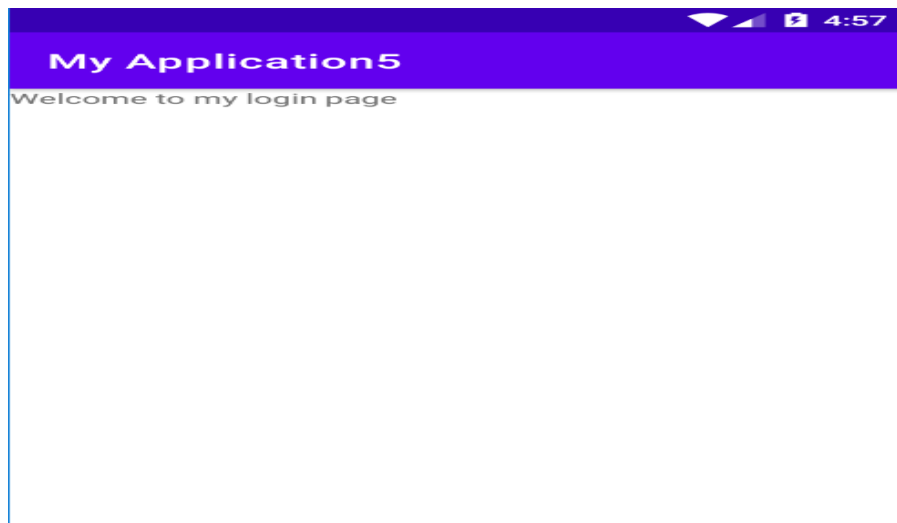
Aim:Design a registration activity and store registration details in local memory of phone using intent and shared preferences

 Program Code:

activity.xml

```xml
<?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"
```

```xml
        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

```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", "");
```

```java
        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
<?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

```java
package com.example.myapplication6;
```

```java
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class MainActivity2 extends AppCompatActivity {

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

Result: Program compiled successfully and output verified.

OUTPUT

Program No: 07   Date:20-09-2022

Aim:Web application to implement implicit intent

 Program Code:

activity.xml
```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>
```

ManActivity.java

```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;
```

```java
    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);
            }
        });
    }
}
```
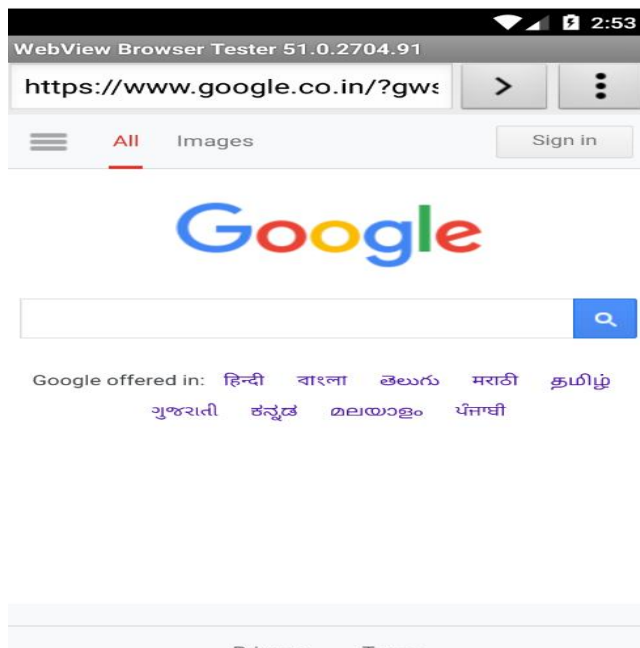
Result: Program compiled successfully and output verified.

OUTPUT

Program No: 08   **Date:25-09-2022**

Aim:Implement options menu to navigate two activities.

Program Code:

Activity_main.xml

```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
<?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>
```

```xml
    <item android:id="@+id/item3"
        android:title="View"/>

</menu>
```

MainActivity.java

```java
package com.example.myapplication7;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.menu,menu);
        return true;
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        switch (item.getItemId()){
            case R.id.item1:
                Toast.makeText(getApplicationContext(),"File
selected",Toast.LENGTH_SHORT).show();
                break;
            case R.id.item2:
                Toast.makeText(getApplicationContext(),"Edit
selected",Toast.LENGTH_SHORT).show();
                break;
            case R.id.sitem1:
                Toast.makeText(getApplicationContext(),"Cut
selected",Toast.LENGTH_SHORT).show();
                break;
            case R.id.sitem2:
```

```java
                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);
  }
}
```

Aim:

 Program Code:

Activity_main.xml

```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"
```

```xml
            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

```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) {
```
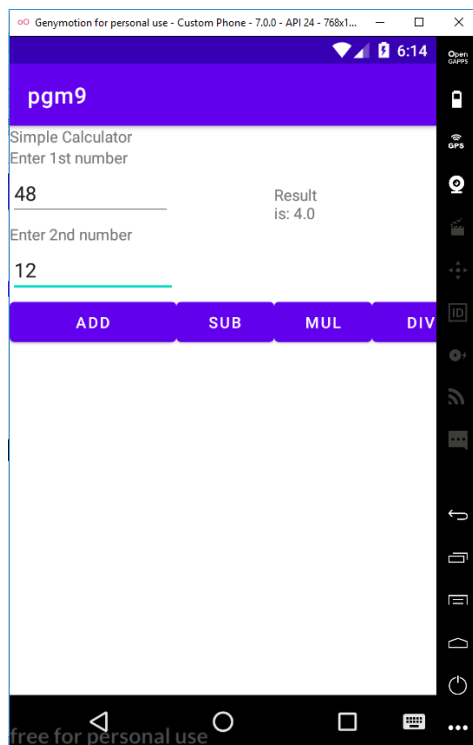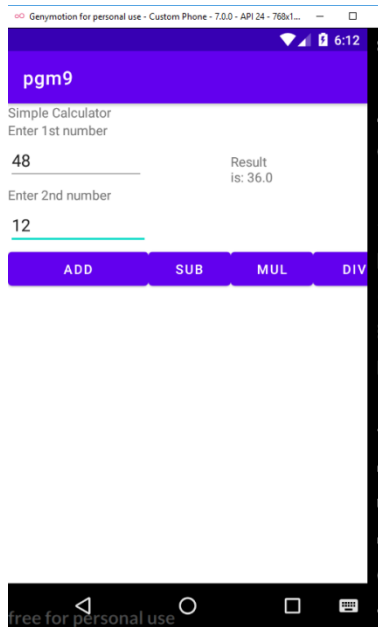
```java
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        EditText t1=findViewById(R.id.n1);
        EditText t2=findViewById(R.id.n2);
        Button add=findViewById(R.id.b1);
        Button sub=findViewById(R.id.b2);
        Button mul=findViewById(R.id.b3);
        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: Develop an application that uses ArrayAdapter with ListView.

Program Code:

Activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">
<ListView
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:id="@+id/l">
</ListView>


</LinearLayout>
```

MainActivity.java

```java
package com.example.pgm10;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.ListView;

public class MainActivity extends AppCompatActivity {
    ListView l;
    String[] p={"A.P.J Abdul Kalam","Sachin Tendulkar"," Cristiano Ronaldo"};

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        l=findViewById(R.id.l);
        ArrayAdapter<String> adapter=new ArrayAdapter<String>(this,
android.R.layout.simple_list_item_1,p);
        l.setAdapter(adapter);
```

```java
        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
<?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

```java
package com.example.pgm10;

import androidx.appcompat.app.AppCompatActivity;
```

```java
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
<?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

```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
<?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

```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);
    }
}
```
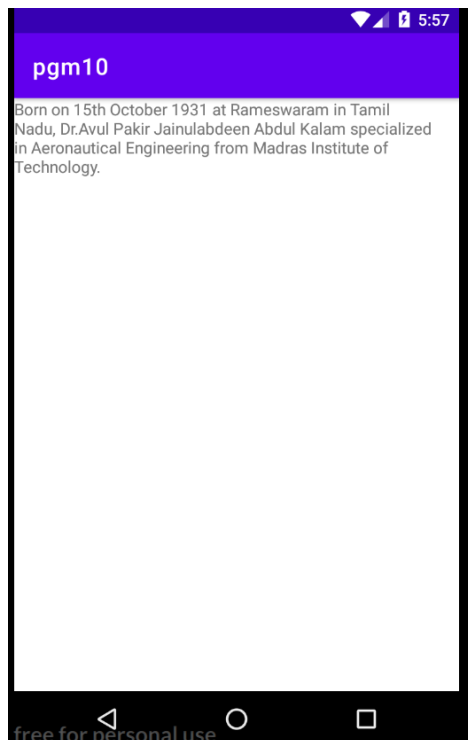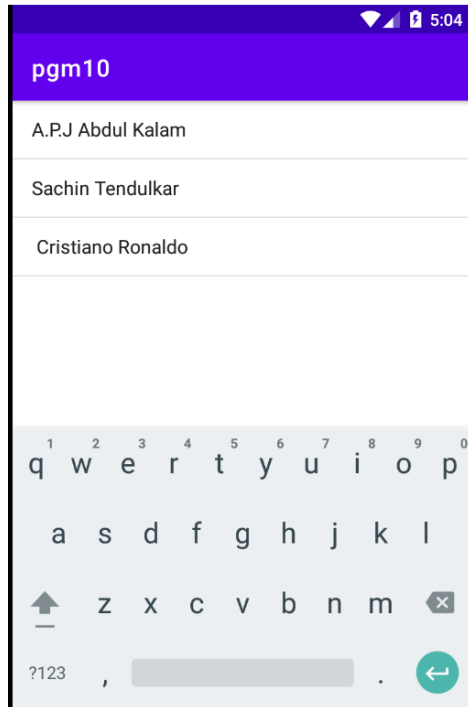
Result: Program compiled successfully and output verified.

OUTPUT

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

 Program Code:

Activity_main.xml

```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

```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);
```

```java
        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