

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" />

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter the Username"
        android:id="@+id/et1" />

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter the password"
        android:id="@+id/et2"
        android:inputType="textPassword"
        android:layout_marginTop="10dp" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="LOGIN"
        android:id="@+id/btn"
        android:layout_marginLeft="10dp" />

</LinearLayout>
```

mainactivity.java:

```
package com.example.myapplication;

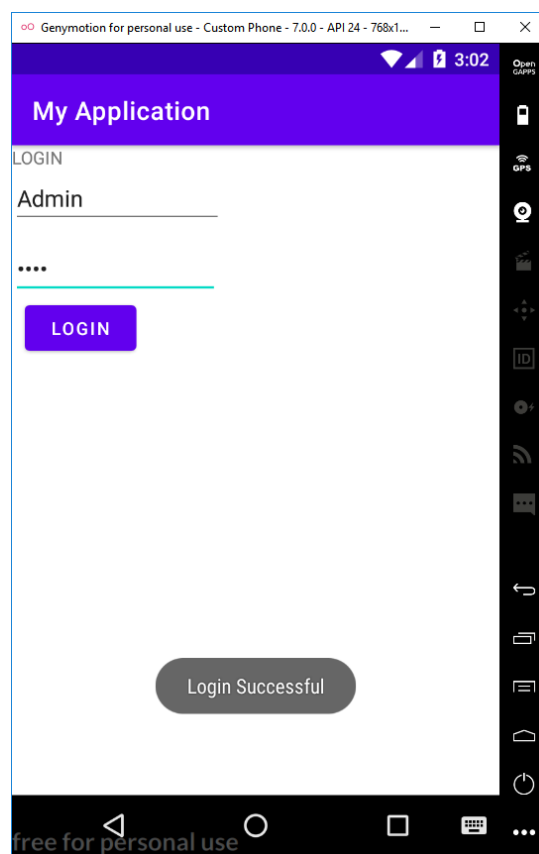
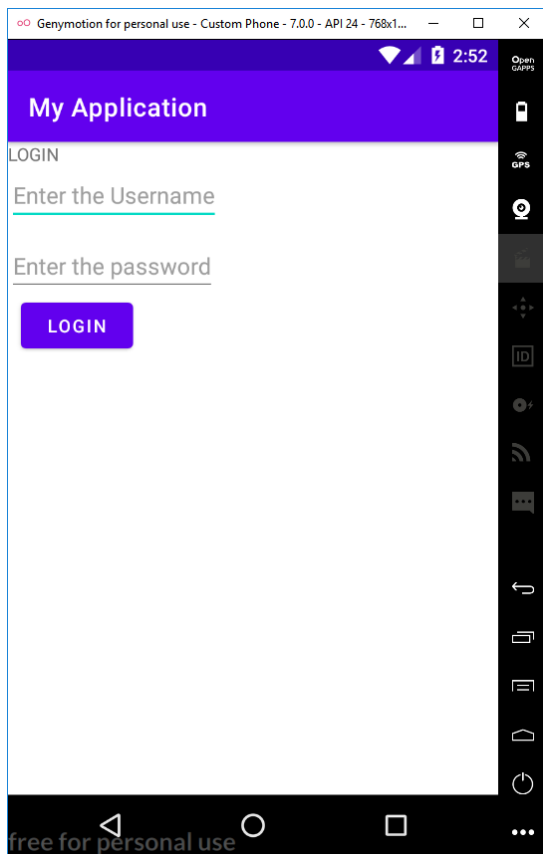
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;
import javax.xml.validation.Validator;

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 user, String pw)
            {
                if (user.equals("Admin") && pw.equals("0987"))
                {
                    Toast.makeText(getApplicationContext(),"Login
Successful",Toast.LENGTH_LONG).show();
                }
                else
                {
                    Toast.makeText(getApplicationContext(),"Login Failed",Toast.LENGTH_LONG).show();
                }
            }
        });
    }
}
```

Result

Program compiled successfully and output verified.

Output



Aim:

Write a program to demonstrate activity lifecycle.

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_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="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;

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

```

2022-08-23 12:08:54.400 2119-2143/com.example.myapplication I/OpenGLRenderer: Initialized EGL, version 1.4
2022-08-23 12:08:54.400 2119-2143/com.example.myapplication D/OpenGLRenderer: Swap behavior 1
2022-08-23 12:09:07.959 2119-2119/com.example.myapplication D/lifecycle: onPause invoked
2022-08-23 12:09:08.669 2119-2119/com.example.myapplication D/lifecycle: onStop invoked
2022-08-23 12:09:08.669 2119-2119/com.example.myapplication D/lifecycle: onDestroy invoked
2022-08-23 12:09:12.630 2119-2119/com.example.myapplication D/lifecycle: onCreate invoked
2022-08-23 12:09:12.631 2119-2119/com.example.myapplication D/lifecycle: onStart invoked
2022-08-23 12:09:12.633 2119-2119/com.example.myapplication D/lifecycle: onResume invoked

```

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"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter the first number" />

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/et1" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter the second number" />

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/et2" />

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/txt1" />

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```

        android:id="@+id/b1"
        android:text="ADD" />
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/b2"
    android:text="SUB" />

<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/b3"
    android:text="MUL" />

<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/b4"
    android:text="DIV" />

</LinearLayout>

```

mainactivity.java:

```

package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button b1=findViewById(R.id.b1);
        Button b2=findViewById(R.id.b2);
        Button b3=findViewById(R.id.b3);
        Button b4=findViewById(R.id.b4);
        EditText et1=findViewById(R.id.et1);
    }
}

```

```

EditText et2=findViewById(R.id.et2);
TextView txt1=findViewById(R.id.txt1);

b1.setOnClickListener(new View.OnClickListener(){
    @Override
    public void onClick(View view){
        Double a1=Double.parseDouble(et1.getText().toString());
        Double a2=Double.parseDouble(et2.getText().toString());
        Double r=a1+a2;
        txt1.setText("Result="+String.valueOf(r));
    }
});

b2.setOnClickListener(new View.OnClickListener(){
    @Override
    public void onClick(View view){
        Double a1=Double.parseDouble(et1.getText().toString());
        Double a2=Double.parseDouble(et2.getText().toString());
        Double r=a1-a2;
        txt1.setText("Result="+String.valueOf(r));
    }
});

b3.setOnClickListener(new View.OnClickListener(){
    @Override
    public void onClick(View view){
        Double a1=Double.parseDouble(et1.getText().toString());
        Double a2=Double.parseDouble(et2.getText().toString());
        Double r=a1*a2;
        txt1.setText("Result="+String.valueOf(r));
    }
});

b4.setOnClickListener(new View.OnClickListener(){
    @Override
    public void onClick(View view){
        Double a1=Double.parseDouble(et1.getText().toString());
        Double a2=Double.parseDouble(et2.getText().toString());
        Double r=a1/a2;
        txt1.setText("Result="+String.valueOf(r));
    }
});

```



```
}  
}
```

Result

Program compiled successfully and output verified.

Output

My Application

Enter the first number

20

Enter the second number

10

Result=30.0

ADD

SUB

MUL

DIV

My Application

Enter the first number

20

Enter the second number

10

Result=10.0

ADD

SUB

MUL

DIV

My Application

Enter the first number

20

Enter the second number

10

Result=200.0

ADD

SUB

MUL

DIV

My Application

Enter the first number

20

Enter the second number

10

Result=2.0

ADD

SUB

MUL

DIV

Aim:

Program to 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:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name" />

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="MobileNumber"
        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="match_parent"
        android:layout_height="wrap_content"
        android:hint="Gender"
        android:id="@+id/gender"
```

```

        android:textSize="20dp"
        android:textColor="@color/design_default_color_on_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.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.content.DialogInterface;
import android.os.Bundle;
import android.widget.Button;
import android.view.View;
import android.widget.Toast;
import android.content.Intent;
import android.widget.CheckBox;
import android.widget.RadioGroup;
import android.widget.EditText;
import android.widget.RadioButton;
import com.google.android.material.chip.ChipGroup;

```

```

public class MainActivity extends AppCompatActivity {
    EditText name;
    EditText mobileno;
    EditText age;
    RadioGroup radiogroup;
    RadioButton male;
    RadioButton female;
    CheckBox checkbox;
    Button button;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name=findViewById(R.id.name);
        mobileno=findViewById(R.id.mobile);
        age=findViewById(R.id.age);
        radiogroup=findViewById(R.id.RG);
        male=findViewById(R.id.radiobutton1);
        female=findViewById(R.id.radiobutton2);
        checkbox=findViewById(R.id.checkbox);
        button=findViewById(R.id.button);
        Button b=findViewById(R.id.button);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                if(error()) {
                    Intent p = new Intent(MainActivity.this, login.class);
                    startActivity(p);
                }
            }
        });
    }
    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 (age.getText().toString().length()==0){
        Toast.makeText(getApplicationContext(),"Please enter age",Toast.LENGTH_LONG).show();
        return false;
    }
    else if (!male.isChecked() && !female.isChecked())
    {
        Toast.makeText(getApplicationContext(),"Please choose gender",
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;
    }
}
}

```

activityLogin.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=".activityLogin">

    <TextView
        android:id="@+id/text"
        android:layout_width="312dp"
        android:layout_height="92dp"
        android:text="Welcome to my login page"
        android:textColor="#FFC107" />

</LinearLayout>

```

activityLogin.java:

```

package com.example.myapplication;
import android.os.Bundle;
import android.widget.TextView;
import androidx.appcompat.app.AppCompatActivity;

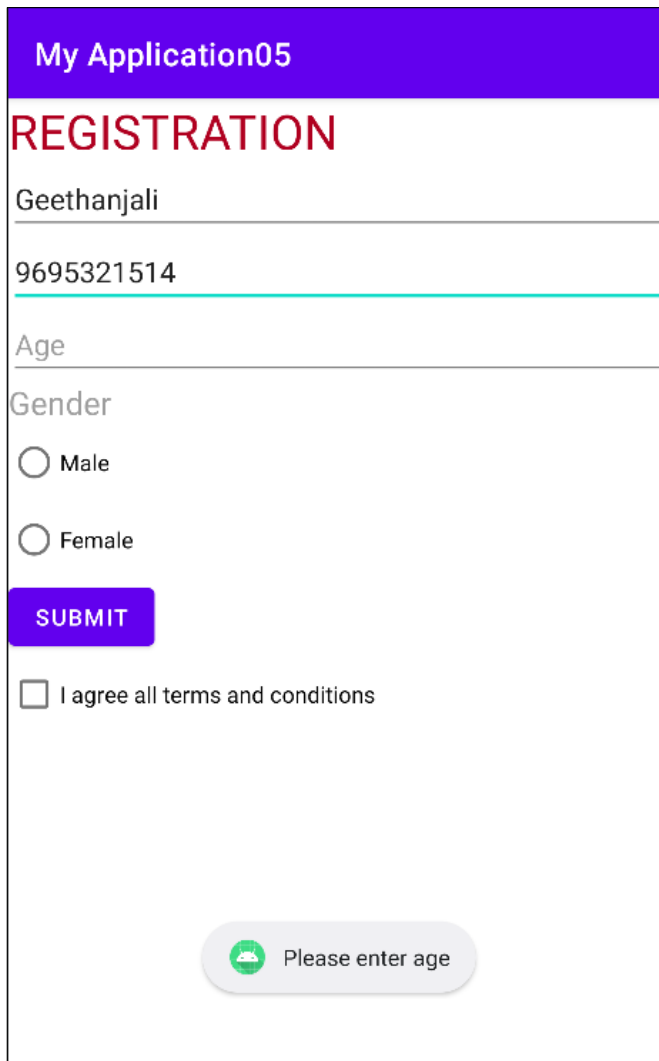
```

```
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



The screenshot shows a registration form within an application titled "My Application05". The form has a white background with a purple header bar. The title "REGISTRATION" is displayed in large red letters. Below the title, there are input fields for "Name" (containing "Geethanjali"), "Phone Number" (containing "9695321514"), "Age", and "Gender". The "Gender" section includes two radio button options: "Male" and "Female". A purple "SUBMIT" button is located below the gender options. At the bottom of the form, there is a checkbox labeled "I agree all terms and conditions". A light gray rounded rectangle at the very bottom contains a green Android icon and the text "Please enter age", indicating a validation error for the age field.

Aim:

Program to 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"?>
<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/purple_500"
        android:textSize="30dp" />

    <EditText
        android:id="@+id/name"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name" />

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Age"
        android:id="@+id/age" />

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="email"
        android:id="@+id/email"/>
    <EditText
```

```
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Address"
    android:id="@+id/address"/>
```

```
<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Qualification"
    android:id="@+id/quali"/>
```

```
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Submit"
    android:id="@+id/button" />
```

```
</LinearLayout>
```

mainactivity.java:

```
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.Button;
import android.view.View;
import android.widget.Toast;
import android.content.Intent;
import android.widget.EditText;
import android.widget.ScrollView;
import android.content.SharedPreferences;

public class MainActivity extends AppCompatActivity {
    EditText name,age,email,quali,address;
    Button button;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name=findViewById(R.id.name);
        age=findViewById(R.id.age);
        email=findViewById(R.id.email);
        address=findViewById(R.id.address);
```



```

quali=findViewById(R.id.quali);
button=findViewById(R.id.button);
button.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Intent i = new Intent(MainActivity.this, MainActivity2.class);
        startActivity(i);
    }
});
}
@Override
protected void onResume() {
    super.onResume();
    SharedPreferences sh = getSharedPreferences("mysharedpreference", 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("quali", "");
    name.setText(s1);
    age.setText((String.valueOf(a)));
    email.setText(s2);
    address.setText(s3);
    quali.setText(s4);
}
@Override
protected void onPause() {
    super.onPause();
    SharedPreferences sh = getSharedPreferences("mysharedpreference", MODE_PRIVATE);
    SharedPreferences.Editor myEdit=sh.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("quali",quali.getText().toString());
    myEdit.commit();
}
}

```

activity_main2.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=".MainActivity2">
```

```
<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Welcome"/>
```

```
</LinearLayout>
```

MainActivity2.java:

```
package com.example.myapplication;
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

My Application	
REGISTRATION	
Geethanjali	
25	
geethanjali@gmail.com	
<u>Payyappilly</u> House	
MCA	
SUBMIT	

Aim:

Design a simple calculator using GridLayout.

Program Code:**activity.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"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="1st number"
        android:layout_row="0"
        android:layout_column="0"/>

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/et1"
        android:layout_row="1"
        android:layout_column="0"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="2nd number"
        android:layout_row="2"
        android:layout_column="0"/>

    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/et2"
        android:layout_row="3"
        android:layout_column="0"/>

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
```

```
    android:id="@+id/txt1"
    android:layout_row="4"
    android:layout_column="0"/>
```

```
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/b1"
    android:text="ADD"
    android:layout_row="5"
    android:layout_column="0"/>
```

```
<Button
    android:id="@+id/b2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_row="5"
    android:layout_column="1"
    android:text="SUB" />
```

```
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/b3"
    android:text="MUL"
    android:layout_row="5"
    android:layout_column="2"/>
```

```
<Button
    android:id="@+id/b4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_row="5"
    android:layout_column="3"
    android:text="DIV" />
```

```
</GridLayout>
```

mainactivity.java:

```
package com.example.myapplication;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;
```

```

public class MainActivity extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Button b1=findViewById(R.id.b1);
        Button b2=findViewById(R.id.b2);
        Button b3=findViewById(R.id.b3);
        Button b4=findViewById(R.id.b4);
        EditText et1=findViewById(R.id.et1);
        EditText et2=findViewById(R.id.et2);
        TextView txt1=findViewById(R.id.txt1);

        b1.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View view){
                Double a1=Double.parseDouble(et1.getText().toString());
                Double a2=Double.parseDouble(et2.getText().toString());
                Double r=a1+a2;
                txt1.setText("Result="+String.valueOf(r));
            }
        });

        b2.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View view){
                Double a1=Double.parseDouble(et1.getText().toString());
                Double a2=Double.parseDouble(et2.getText().toString());
                Double r=a1-a2;
                txt1.setText("Result="+String.valueOf(r));
            }
        });

        b3.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View view){
                Double a1=Double.parseDouble(et1.getText().toString());
                Double a2=Double.parseDouble(et2.getText().toString());
                Double r=a1*a2;
                txt1.setText("Result="+String.valueOf(r));
            }
        });
    }
}

```

```

b4.setOnClickListener(new View.OnClickListener(){
    @Override
    public void onClick(View view){
        Double a1=Double.parseDouble(et1.getText().toString());
        Double a2=Double.parseDouble(et2.getText().toString());
        Double r=a1/a2;
        txt1.setText("Result="+String.valueOf(r));
    }
});
}
}

```

Result

Program compiled successfully and output verified.

Output

My Application

1st number

30

2nd number

5

Result=35.0

ADD SUB MUL DIV

My Application

1st number

30

2nd number

5

Result=25.0

ADD SUB MUL DIV

My Application

1st number

30

2nd number

5

Result=150.0

ADD SUB MUL DIV

My Application

1st number

30

2nd number

5

Result=6.0

ADD SUB MUL DIV

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:tools="http://schemas.android.com/tools"
    android:id="@+id/activity_main"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <RelativeLayout
        android:id="@+id/relativeLayout"
        android:layout_width="match_parent"
        android:layout_height="wrap_content">

        <ImageView
            android:layout_width="match_parent"
            android:layout_height="200dp"
            android:id="@+id/img1"
            android:src="@drawable/cover"
            android:scaleType="centerCrop"/>

        <ImageView
            android:layout_width="70dp"
            android:layout_height="150dp"
            android:id="@+id/profilePic"
            android:src="@drawable/profpic"
            android:layout_alignBottom="@+id/linearLayout"/>

        <LinearLayout
            android:layout_toRightOf="@+id/profilePic"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_below="@+id/img1"
            android:orientation="horizontal"
            android:weightSum="100"
```

```

        android:id="@+id/linearLayout">

        <Button
            android:layout_width="70dp"
            android:layout_height="40dp"
            android:text="Timeline"
            android:textSize="7dp"
            android:layout_weight="10"/>

        <Button
            android:layout_width="60dp"
            android:layout_height="40dp"
            android:layout_weight="10"
            android:textSize="7dp"
            android:text="About" />

        <Button
            android:layout_weight="10"
            android:textSize="7dp"
            android:layout_width="60dp"
            android:layout_height="40dp"
            android:text="Friends" />

        <Button
            android:layout_weight="10"
            android:textSize="7dp"
            android:layout_width="60dp"
            android:layout_height="40dp"
            android:text="Photos" />
    </LinearLayout>

    <TextView
        android:textColor="@color/white"
        android:textStyle="bold"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Geethanjali Paul"
        android:ems="20"
        android:layout_alignParentEnd="true"
        android:id="@+id/textName"
        android:layout_alignBottom="@+id/img1"/>
</RelativeLayout>

```



```
<RelativeLayout
    android:paddingRight="15dp"
    android:paddingLeft="15dp"
    android:paddingTop="15dp"
    android:paddingBottom="15dp"
    android:layout_below="@+id/relativeLayout"
    android:layout_width="match_parent"
    android:layout_height="wrap_content">
```

```
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:orientation="horizontal"
    android:id="@+id/linearLayout2">
```

```
<ImageView
    android:layout_width="25dp"
    android:layout_height="25dp"
    android:src="@drawable/profpic"/>
```

```
<EditText
    android:id="@+id/etPost"
    android:layout_marginLeft="10dp"
    android:textSize="15dp"
    android:layout_width="match_parent"
    android:layout_height="40dp"
    android:hint="What's on your mind?"/>
```

```
</LinearLayout>
```

```
<Button
    android:textSize="10dp"
    android:text="Post"
    android:layout_width="70dp"
    android:layout_height="40dp"
    android:layout_alignParentRight="true"
    android:layout_below="@+id/linearLayout2"/>
```

```
</RelativeLayout>
```

```
</RelativeLayout>
```

mainactivity.java:

```
package com.example.facebook;
```

```
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;

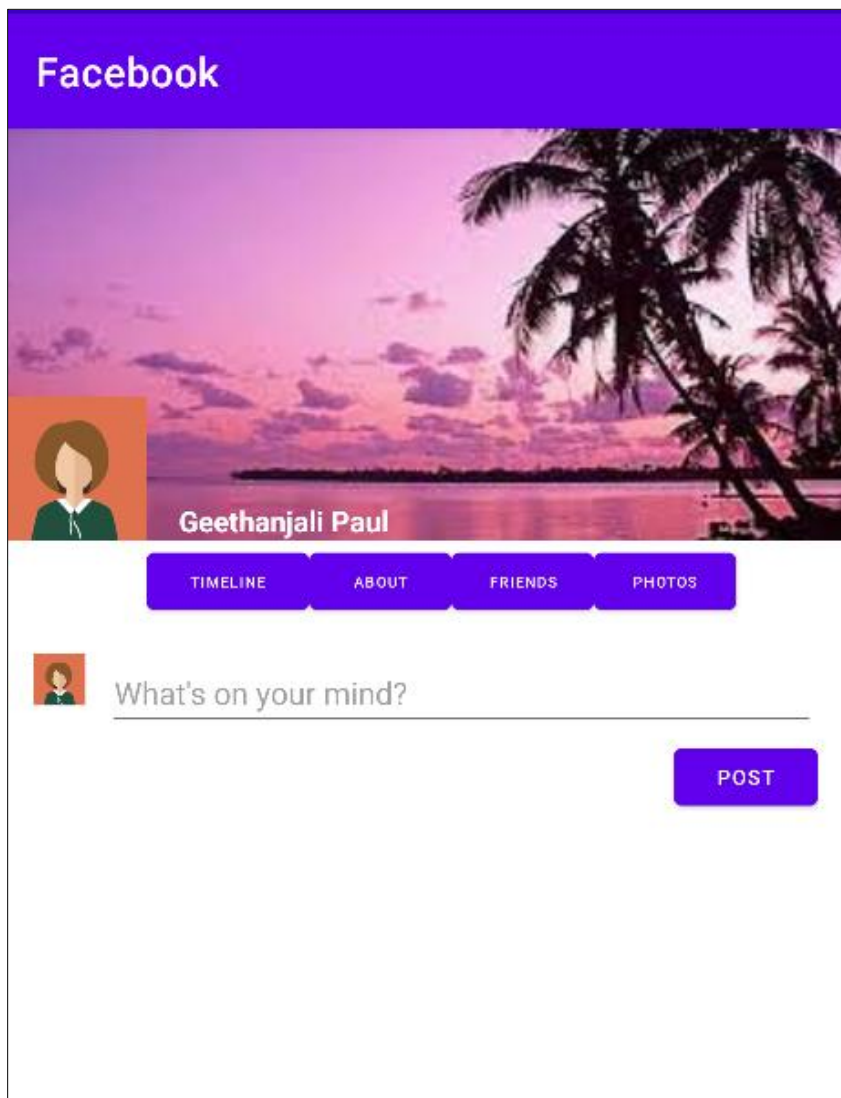
public class MainActivity extends AppCompatActivity {

    @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 tha toggles image using FrameLayout.

Program Code:**activity_main.xml:**

```
<?xml version="1.0" encoding="utf-8"?>
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    tools:context=".MainActivity">

    <ImageView
        android:id="@+id/image1"
        android:layout_width="410dp"
        android:layout_height="200dp"
        android:scaleType="centerCrop"
        android:src="@drawable/i1" />

    <ImageView
        android:id="@+id/image2"
        android:layout_width="410dp"
        android:layout_height="200dp"
        android:scaleType="centerCrop"
        android:src="@drawable/i2" />

</FrameLayout>
```

mainactivity.java:

```
package com.example.myapplication11;
import androidx.appcompat.app.AppCompatActivity;
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);
```

```

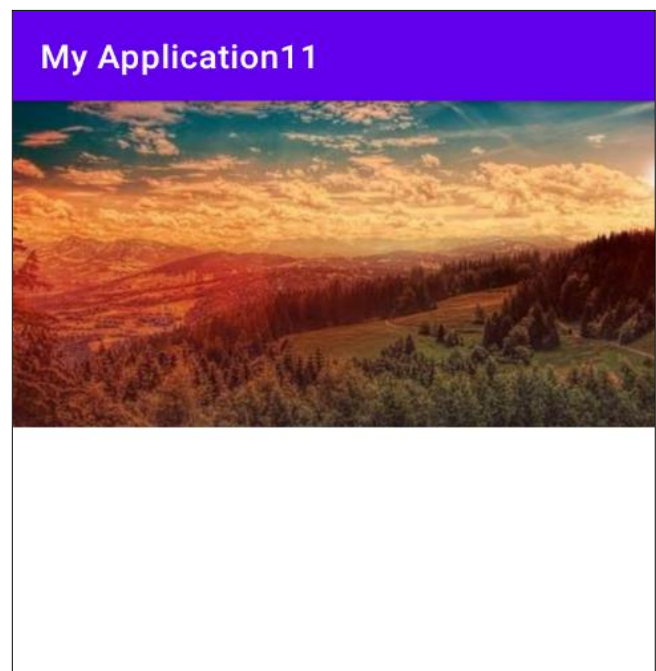
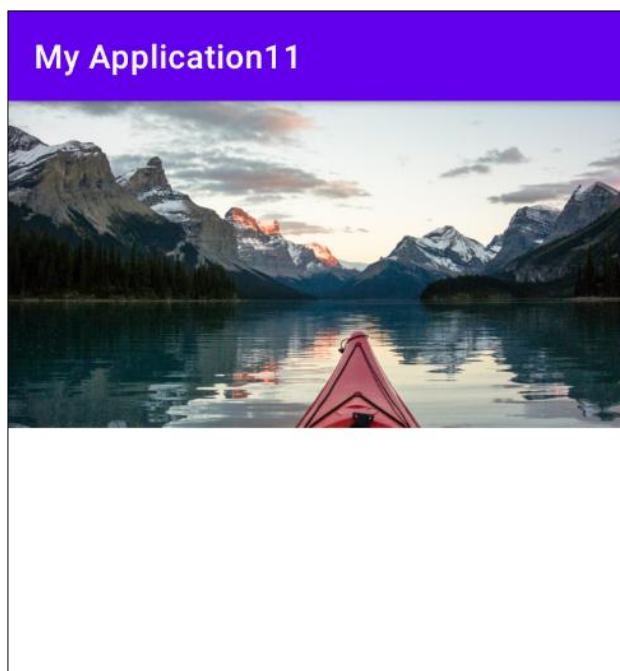
i1=findViewById(R.id.image1);
i2=findViewById(R.id.image2);
i2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        i2.setVisibility(View.GONE);
        i1.setVisibility(View.VISIBLE);
    }
});
i1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        i1.setVisibility(View.GONE);
        i2.setVisibility(View.VISIBLE);
    }
});
}
}

```

Result

Program compiled successfully and output verified.

Output



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);
```

```

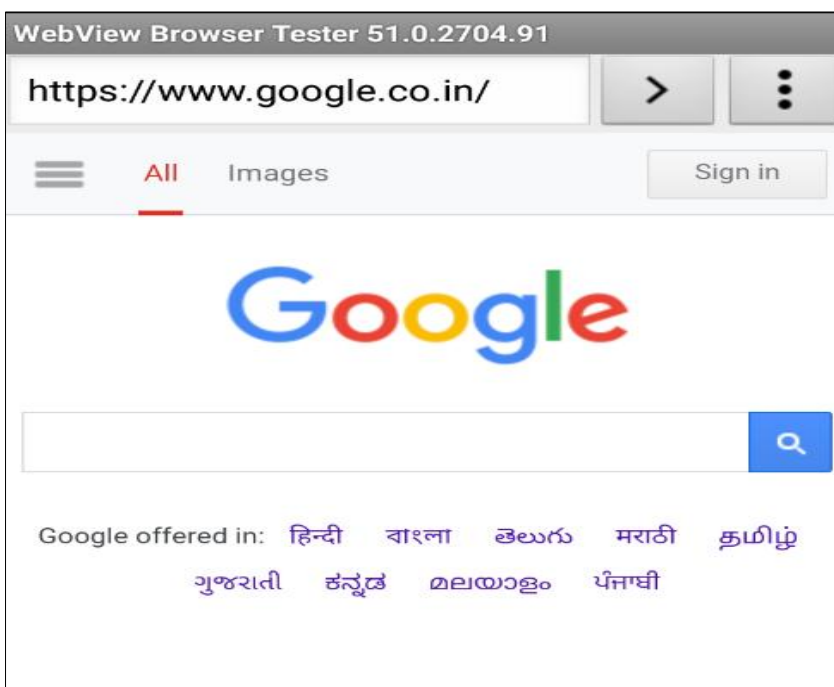
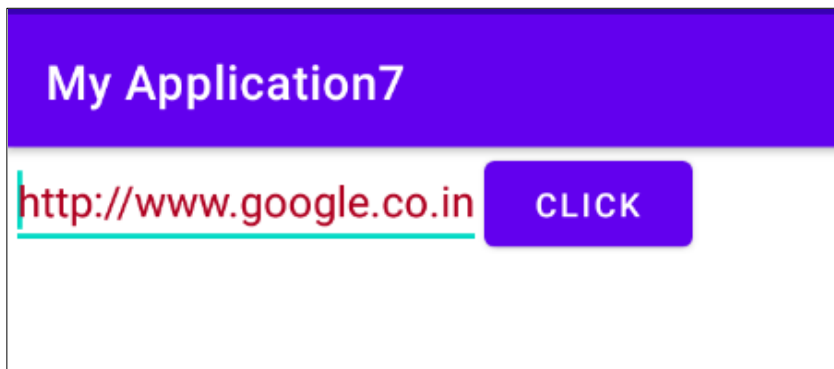
setContentView(R.layout.activity_main);
et1=findViewById(R.id.t1);
b1=findViewById(R.id.btn1);
b1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        String url=et1.getText().toString();
        Intent i=new Intent(Intent.ACTION_VIEW, Uri.parse(url));
        startActivity(i);
    }
});
}
}

```

Result

Program compiled successfully and output verified

Output



Aim:

Implement options menu to navigate two activities.

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>
```

menu.xml:

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

mainactivity.java:

```
package com.example.myapplicationmenu;
import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

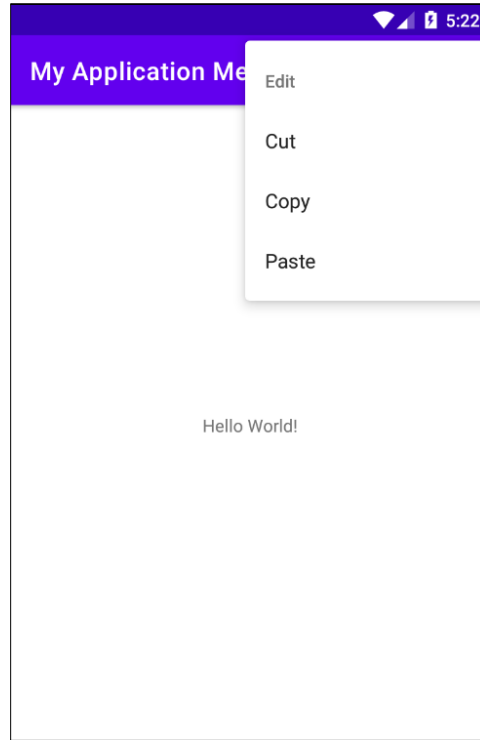
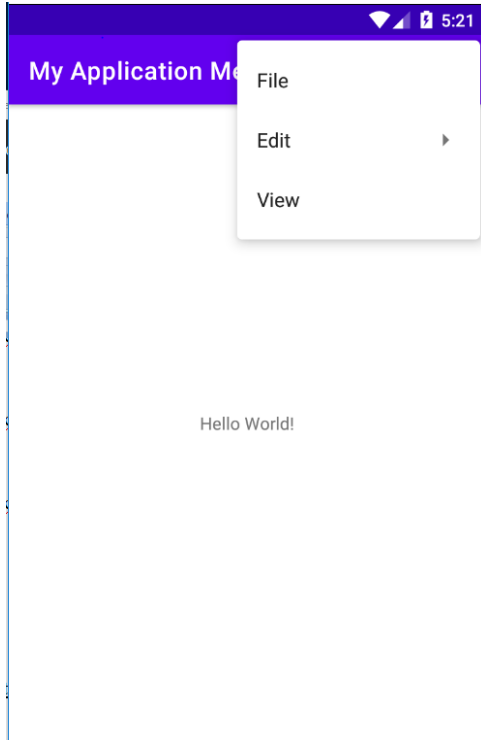
    @Override
    public boolean onCreateOptionsMenu(Menu menu) {
        getMenuInflater().inflate(R.menu.menu,menu);
        return true;
    }

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        switch (item.getItemId()){
            case R.id.item1:
                Toast.makeText(getApplicationContext(),"File selected",Toast.LENGTH_SHORT).show();
                break;
            case R.id.item2:
                Toast.makeText(getApplicationContext(),"Edit selected",Toast.LENGTH_SHORT).show();
                break;
            case R.id.sitem1:
                Toast.makeText(getApplicationContext(),"Cut selected",Toast.LENGTH_SHORT).show();
                break;
            case R.id.sitem2:
                Toast.makeText(getApplicationContext(),"Copy selected",Toast.LENGTH_SHORT).show();
                break;
            case R.id.sitem3:
                Toast.makeText(getApplicationContext(),"Paste selected",Toast.LENGTH_SHORT).show();
                break;
            case R.id.item3:
                Toast.makeText(getApplicationContext(),"View selected",Toast.LENGTH_SHORT).show();
                break;
        }
        return super.onOptionsItemSelected(item);
    }
}
```


Result

Program compiled successfully and output verified.

Output



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/list"/>

</LinearLayout>
```

mainactivity.java:

```
package com.example.myapplication10;
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 list;
    String[] p={"A.P.J.Abdul Kalam","Sachin Tendulkar","Barak Obama"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        list=findViewById(R.id.list);
        ArrayAdapter<String> adapter=new ArrayAdapter<String>(this,
android.R.layout.simple_list_item_1,p);
        list.setAdapter(adapter);
        list.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(i==2)
        {
            Intent s=new Intent(MainActivity.this,MainActivity4.class);
            startActivity(s);
        }
    }
});
}
}

```

activity_main2.xml:

```
<?xml version="1.0" encoding="utf-8"?>
```

```
<LinearLayout
```

```
    xmlns:android="http://schemas.android.com/apk/res/android"
```

```
    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:textColor="@android:color/holo_blue_light"
```

```
        android:text="A.P.J.ABDUL KALAM \n\n Avul Pakir Jainulabdeen Abdul Kalam (15 October
1931 – 27 July 2015) was an Indian aerospace scientist and statesman who served as the 11th President
of India from 2002 to 2007. He was born and raised in Rameswaram, Tamil Nadu and studied physics
and aerospace engineering. He spent the next four decades as a scientist and science administrator,
mainly at the Defence Research and Development Organisation (DRDO) and Indian Space Research
Organisation (ISRO) and was intimately involved in India's civilian space programme and military
missile development efforts" />
```

```
</LinearLayout>
```

mainactivity2.java:

```
package com.example.myapplication10;
```

```
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"?>
<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=".MainActivity3">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:textColor="@android:color/holo_orange_dark"
        android:text="SACHIN TENDULKAR \n\n
        Sachin Ramesh Tendulkar AO BR (born 24 April 1973) is an Indian former international cricketer
        who captained the Indian national team. He is regarded as one of the greatest batsmen in the history of
        cricket. He was a right-handed top-order batsmen in the Indian Cricket Team. He is known for his
        batting skills, technique, vision and game reading. He is the all time most runscorer in both ODI and
        Test Format with more then 18000 runs and 15000 runs respectively in total. He also holds the record
        for receiving most Man-of-the-match awards in International Cricket with all forms combined." />
    </LinearLayout>

```

mainactivity3.java:

```

package com.example.myapplication10;
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"?>
<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=".MainActivity4">
    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:textColor="@android:color/holo_green_dark"
        android:text="BARAK OBAMA \n\n

```

Barack Hussein Obama (born August 4, 1961) is an American politician who served as the 44th president of the United States from 2009 to 2017. A member of the Democratic Party, he was the first African-American president of the United States.Obama previously served as a U.S. senator from Illinois from 2005 to 2008 and as an Illinois state senator from 1997 to 2004." />

```

</LinearLayout>

```

mainactivity4.java:

```

package com.example.myapplication10;
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

My Application10	
A.P.J.Abdul Kalam	
Sachin Tendulkar	
Barak Obama	

My Application10

A.P.J.ABDUL KALAM

Avul Pakir Jainulabdeen Abdul Kalam (15 October 1931 – 27 July 2015) was an Indian aerospace scientist and statesman who served as the 11th President of India from 2002 to 2007. He was born and raised in Rameswaram, Tamil Nadu and studied physics and aerospace engineering. He spent the next four decades as a scientist and science administrator, mainly at the Defence Research and Development Organisation (DRDO) and Indian Space Research Organisation (ISRO) and was intimately involved in India's civilian space programme and military missile development efforts

My Application10

BARAK OBAMA

Barack Hussein Obama (born August 4, 1961) is an American politician who served as the 44th president of the United States from 2009 to 2017. A member of the Democratic Party, he was the first African-American president of the United States. Obama previously served as a U.S. senator from Illinois from 2005 to 2008 and as an Illinois state senator from 1997 to 2004.

My Application10

SACHIN TENDULKAR

Sachin Ramesh Tendulkar AO BR (born 24 April 1973) is an Indian former international cricketer who captained the Indian national team. He is regarded as one of the greatest batsmen in the history of cricket. He was a right-handed top-order batsmen in the Indian Cricket Team. He is known for his batting skills, technique, vision and game reading. He is the all time most runscore in both ODI and Test Format with more than 18000 runs and 15000 runs respectively in total. He also holds the record for receiving most Man-of-the-match awards in International Cricket with all forms combined.

Aim:

Implement and perform exception handling..

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">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/tv1"/>

</RelativeLayout>
```

MainActivity.java:

```
package com.example.myapplication14;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.widget.TextView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    TextView tv1;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        try{
            tv1.setText("WELCOME");
        }
        catch (Exception e){
            Toast.makeText(this,e.getMessage(),Toast.LENGTH_LONG).show();
        }
    }
}
```

Result

Program compiled successfully and output verified.

Output



Aim:

Develop an application that use GridLayout with images and display Toast on selection.

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">

    <ImageView
        android:layout_width="match_parent"
        android:layout_height="300dp"
        android:id="@+id/img1"
        android:src="@drawable/img1"
        android:scaleType="centerCrop"
        android:layout_row="0"
        android:layout_column="0" />
    <ImageView
        android:layout_width="match_parent"
        android:layout_height="300dp"
        android:layout_column="0"
        android:scaleType="centerCrop"
        android:src="@drawable/img2"
        android:id="@+id/img2"
        android:layout_row="1"/>

</GridLayout>
```

MainActivity.java:

```
package com.example.gridview;

import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Toast;
import android.widget.ImageView;

public class MainActivity extends AppCompatActivity {
    ImageView image1,image2;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

```

super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
image1=findViewById(R.id.img1);
image2=findViewById(R.id.img2);
image1.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Toast.makeText(getApplicationContext(),"Effel Tower",Toast.LENGTH_LONG).show();
    }
});
image2.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Toast.makeText(getApplicationContext(),"Taj Mahal",Toast.LENGTH_LONG).show();
    }
});
}
}

```

Result

Program compiled successfully and output verified.

Output



Aim:

Develop an application that implements Spinner component and perform event handling

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">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Select your nation:"
        android:id="@+id/t1"
        android:textSize="20dp" />

    <Spinner
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/t1"
        android:id="@+id/spinner"/>

</RelativeLayout>
```

MainActivity.java:

```
package com.example.Spinner;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView.OnItemClickListener;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
    AdapterView.OnItemClickListener{
    String[] country={"India","China","U.S.A","Russia","Other"};
    @Override
    protected void onCreate(Bundle savedInstanceState) {
```

```

super.onCreate(savedInstanceState);
setContentView(R.layout.activity_main);
Spinner spin=(Spinner)findViewById(R.id.spinner);
spin.setOnItemSelectedListener(this);
ArrayAdapter ar=new ArrayAdapter(this, android.R.layout.simple_spinner_item,country);
ar.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);
spin.setAdapter(ar);
}
@Override
public void onItemSelected(AdapterView arg0, View arg1, int position, long id){
    Toast.makeText(getApplicationContext(),country[position] ,
        Toast.LENGTH_LONG).show();
}

@Override
public void onNothingSelected(AdapterView<?> adapterView){

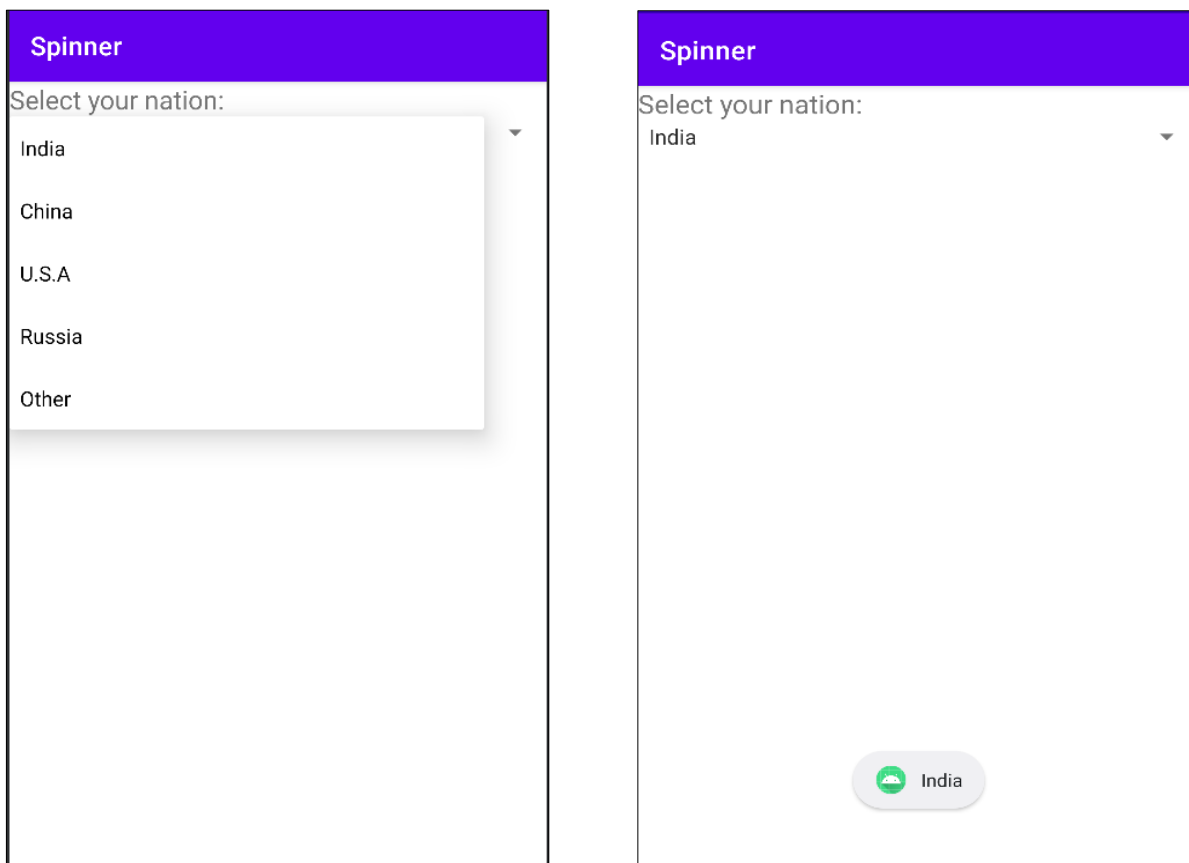
}
}

```

Result

Program compiled successfully and output verified.

Output



Aim:

Implement Navigation drawer.

Program Code:**activity_main.xml:**

```
<androidx.drawerlayout.widget.DrawerLayout
    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:id="@+id/my_drawer_layout"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    tools:ignore="HardcodedText">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent">

        <TextView
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_marginTop="128dp"
            android:gravity="center"
            android:text="Welcome to Galaxy"
            android:textSize="18sp" />
    </LinearLayout>

    <com.google.android.material.navigation.NavigationView
        android:layout_width="wrap_content"
        android:layout_height="match_parent"
        android:layout_gravity="start"
        app:menu="@menu/menu" />

</androidx.drawerlayout.widget.DrawerLayout>
```

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="My Account"/>
    <item
        android:id="@+id/item2"
```

```

        android:title="Settings"/>
    <item
        android:id="@+id/item3"
        android:title="Logout"/>

</menu>

```

strings.xml:

```

<resources>
    <string name="app_name">Navigation Drawer</string>
    <!-- to toggle the open close button of the navigation drawer -->
    <string name="nav_open">Open</string>
    <string name="nav_close">Close</string>
</resources>

```

MainActivity.java:

```

package com.example.myapplication16;

import androidx.annotation.NonNull;
import androidx.appcompat.app.ActionBarDrawerToggle;
import androidx.appcompat.app.AppCompatActivity;
import androidx.drawerlayout.widget.DrawerLayout;

import android.os.Bundle;
import android.view.MenuItem;

public class MainActivity extends AppCompatActivity {
    public DrawerLayout drawerLayout;
    public ActionBarDrawerToggle actionBarDrawerToggle;

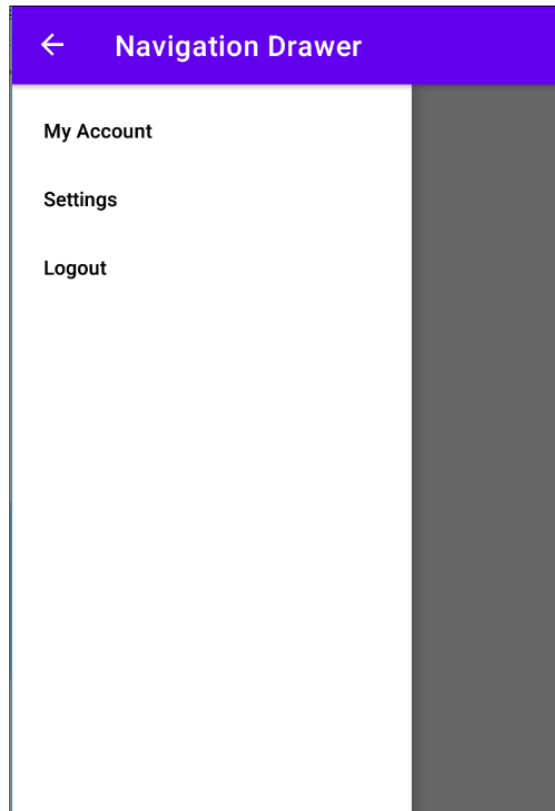
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        drawerLayout = findViewById(R.id.my_drawer_layout);
        actionBarDrawerToggle = new ActionBarDrawerToggle(this, drawerLayout, R.string.nav_open,
R.string.nav_close);
        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
    }
    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item){
        if (actionBarDrawerToggle.onOptionsItemSelected(item)){
            return true;
        }
        return super.onOptionsItemSelected(item);
    }
}

```

Result

Program compiled successfully and output verified.

Output



Aim:

Create database using SQLite and perform INSERT, SELECT, UPDATE and DELETE on SQLite database.

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"
    android:padding="10dp"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="Name"
        android:id="@+id/t1"/>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter the Name"
        android:textSize="24dp"
        android:id="@+id/et1"
        android:layout_below="@+id/t1"/>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:id="@+id/t2"
        android:text="Contact No."
        android:layout_below="@+id/et1"/>

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Enter the Contact No."
        android:textSize="24dp"
        android:id="@+id/et2"
```



```

        android:layout_below="@+id/t2"/>

<TextView
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:textSize="24dp"
    android:text="DOB"
    android:id="@+id/t3"
    android:layout_below="@+id/et2"/>

<EditText
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:hint="Enter the DOB"
    android:textSize="24dp"
    android:id="@+id/et3"
    android:layout_below="@+id/t3"/>

<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="INSERT"
    android:id="@+id/btn1"
    android:textSize="24dp"
    android:layout_marginLeft="10dp"
    android:layout_below="@+id/et3"/>

<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="UPDATE"
    android:id="@+id/btn2"
    android:textSize="24dp"
    android:layout_marginLeft="10dp"
    android:layout_below="@+id/btn1"/>

<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="DELETE"
    android:id="@+id/btn3"
    android:textSize="24dp"
    android:layout_marginLeft="10dp"
    android:layout_below="@+id/btn2"/>

<Button
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:text="VIEW"
    android:id="@+id/btn4"

```

```
android:textSize="24dp"
android:layout_marginLeft="10dp"
android:layout_below="@+id/btn3"/>
```

```
</RelativeLayout>
```

DBHelper.java:

```
package com.example.myapplication13;
import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;

import androidx.annotation.NonNull;
import androidx.annotation.Nullable;

public class DBHelper extends SQLiteOpenHelper {
    public DBHelper(@Nullable Context context) {
        super(context, "userdata.db", null, 1);
    }

    @Override
    public void onCreate(SQLiteDatabase DB) {
        DB.execSQL("Create Table userdetails(name TEXT primary key,contact TEXT, dob TEXT)");
    }

    @Override
    public void onUpgrade(SQLiteDatabase DB, int i, int i1) {
        DB.execSQL("drop Table if exists userdetails");
    }

    public Boolean insertData(String name, String contact, String dob) {
        SQLiteDatabase DB = this.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put("name", name);
        contentValues.put("contact", contact);
        contentValues.put("dob", dob);
        long result = DB.insert("userdetails", null, contentValues);
        if (result == -1)
            return false;
        else
            return true;
    }

    public Boolean updateData(String name, String contact, String dob) {
        SQLiteDatabase DB = this.getWritableDatabase();
        ContentValues contentValues = new ContentValues();
        contentValues.put("contact", contact);
```

```

contentValues.put("dob", dob);
Cursor cursor = DB.rawQuery("select * from userdetails where name=?", new String[]{name});
if (cursor.getCount() > 0) {

    long result = DB.update("userdetails", contentValues, "name=?", new String[]{name});
    if (result == -1)
        return false;
    else
        return true;
} else {
    return false;
}
}

```

```

public Boolean deleteData(String name) {
    SQLiteDatabase DB = this.getWritableDatabase();
    Cursor cursor = DB.rawQuery("select * from userdetails where name=?", new String[]{name});
    if (cursor.getCount() > 0) {
        long result = DB.delete("userdetails", "name=?", new String[]{name});
        if (result == -1)
            return false;
        else
            return true;
    } else {
        return false;
    }
}

```

```

public Cursor getData() {
    SQLiteDatabase DB = this.getWritableDatabase();

    Cursor cursor = DB.rawQuery("select * from userdetails", null);
    return cursor;
}
}

```

MainActivity.java:

```

package com.example.myapplication13;

import androidx.appcompat.app.AlertDialog;
import androidx.appcompat.app.AppCompatActivity;

import android.database.Cursor;
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 {
    EditText et1,et2,et3;
    Button Insert,Update,Delete,View;
    DBHelper db;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        et1 = findViewById(R.id.et1);
        et2 = findViewById(R.id.et2);
        et3 = findViewById(R.id.et3);

        Insert = findViewById(R.id.btn1);
        Update = findViewById(R.id.btn2);
        Delete = findViewById(R.id.btn3);
        View = findViewById(R.id.btn4);
        db = new DBHelper(this);

        Insert.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(android.view.View view) {
                String name = et1.getText().toString();
                String contact = et2.getText().toString();
                String dob = et3.getText().toString();

                boolean checkInsertData = db.insertData(name, contact, dob);
                if (checkInsertData == true)
                    Toast.makeText(MainActivity.this, "New entry inserted", Toast.LENGTH_LONG).show();
                else
                    Toast.makeText(MainActivity.this, "New entry Not inserted",
Toast.LENGTH_LONG).show();

            }
        });

        Update.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(android.view.View view) {
                String name= et1.getText().toString();
                String contact=et2.getText().toString();
                String dob= et3.getText().toString();

                boolean checkUpdateData= db.updateData(name,contact,dob);
                if(checkUpdateData==true)
                    Toast.makeText(MainActivity.this,"Entry updated",Toast.LENGTH_LONG).show();
                else

```

```

        Toast.makeText(MainActivity.this, "Entry Not Updated", Toast.LENGTH_LONG).show();

    }
});

Delete.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(android.view.View view) {
        String name= et1.getText().toString();

        boolean checkDeleteData= db.deleteData(name);
        if(checkDeleteData==true)
            Toast.makeText(MainActivity.this, "Entry deleted", Toast.LENGTH_LONG).show();
        else
            Toast.makeText(MainActivity.this, "Entry Not deleted", Toast.LENGTH_LONG).show();

    }
});

View.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(android.view.View view) {
        Cursor res=db.getData();
        if (res.getCount() == 0) {
            Toast.makeText(MainActivity.this, "No entry exists", Toast.LENGTH_LONG).show();
            return;
        }
        StringBuffer buffer = new StringBuffer();
        while (res.moveToNext()) {
            buffer.append("name:" + res.getString(0) + "\n");
            buffer.append("contact:" + res.getString(1) + "\n");
            buffer.append("data of birth:" + res.getString(2) + "\n\n\n\n\n");
        }
        AlertDialog.Builder builder=new AlertDialog.Builder(MainActivity.this);
        builder.setCancelable(true);
        builder.setTitle("User Enteries");
        builder.setMessage(buffer.toString());
        builder.show();
    }
});
}
}

```

Result

Program compiled successfully and output verified.

Output

My Application

Name
Aradhya

Contact No.
8596471532

DOB
12.03.2011

INSERT

UPDATE

DELETE

New entry inserted

VIEW

My Application

Name
Geethanjali

Contact No.
9548762582

DOB
05.11.2000

INSERT

UPDATE

DELETE

Entry updated

VIEW

My Application

Name
Geethanjali

Contact No.
9548762582

DOB
05.11.2000

INSERT

UPDATE

DELETE

Entry deleted

VIEW

My Application

Name
Geethanjali

Contact No.
9548762582

DOB
05.11.2000

INSERT

UPDATE

DELETE

Entry deleted

VIEW