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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="LOGIN PAGE"
        android:textSize="30dp" />
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter ur username"
        android:id="@+id/btn1"
        android:layout_marginTop="10dp" />
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter ur password"
        android:layout_marginTop="10dp"
        android:id="@+id/btn2"
        android:inputType="textPassword" />
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login"
        android:id="@+id/et1"
        android:layout_marginLeft="150dp" />

</LinearLayout>
```
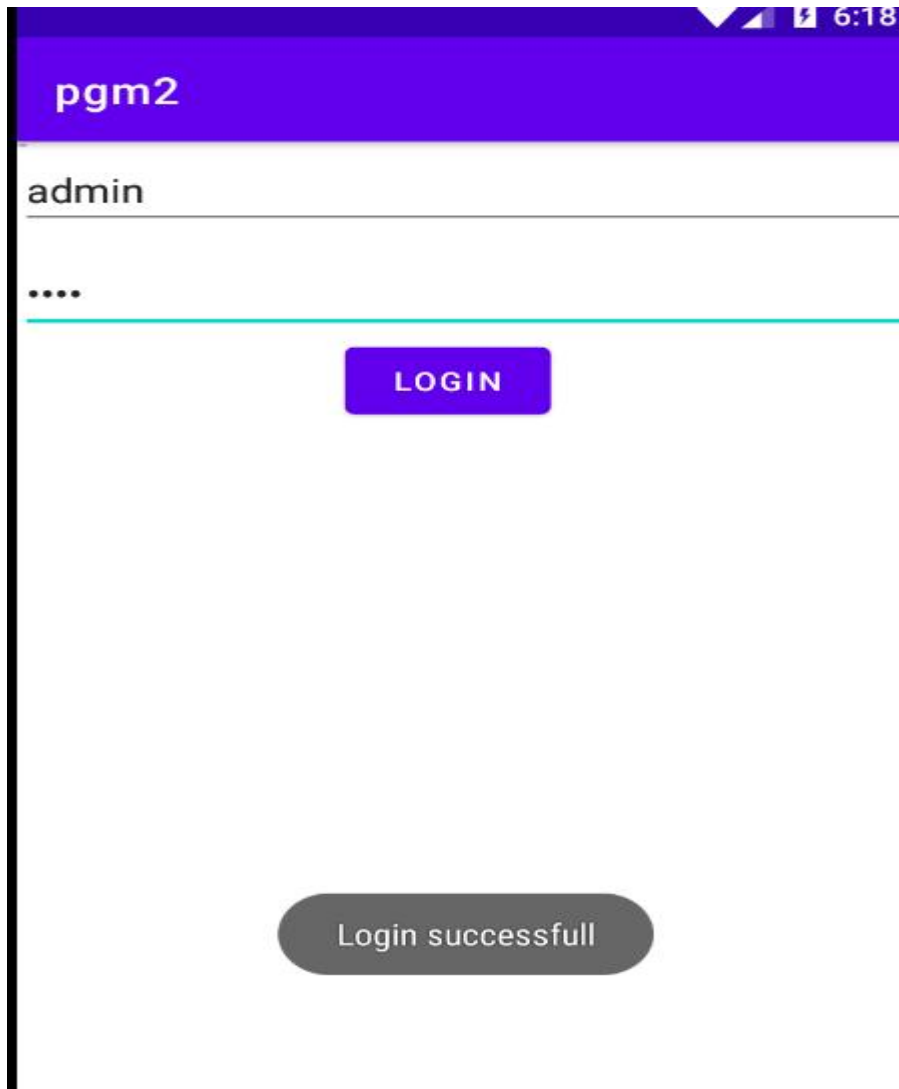
Mainactivity.xml

```
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 bnt1=findViewById(R.id.btn1);
        EditText bnt2=findViewById(R.id.btn2);
        Button button=findViewById(R.id.et1);
        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                validate (bnt1.getText().toString(),bnt2.getText().toString());
            }
            private void validate(String us,String p)
            {
                if (us.equals("admin")&&p.equals("1234"))
                {

Toast.makeText(getApplicationContext(),"successfull",Toast.LENGTH_LONG).show();
                }
                else
                {

Toast.makeText(getApplicationContext(),"Unsuccessfull",Toast.LENGTH_LONG).show();
                }
            }
        });
```

Result : Program complied successfully and output verified .

OUTPUT

Aim:Write a program that demonstrate 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" />

</androidx.constraintlayout.widget.ConstraintLayout>
```

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","onStrat 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 complied successfully and output verified .

OUTPUT

Logcat

Genymotion Custom Phone - 7.(▼   com.example.**myapplication** (1723) ▼   Debug   ▼   Q▾

≡ logcat

2022-08-23 12:07:05.003 1723-1738/com.example.myapplication D/libEGL: loaded /system/lib/egl/libGLESv2_emula
2022-08-23 12:07:05.627 1723-1738/com.example.myapplication I/OpenGLRenderer: Initialized EGL, version 1.4
2022-08-23 12:07:05.627 1723-1738/com.example.myapplication D/OpenGLRenderer: Swap behavior 1
2022-08-23 12:07:09.985 1723-1723/com.example.myapplication D/Lifecycle: onPause invoked
2022-08-23 12:07:10.762 1723-1723/com.example.myapplication D/Lifecycle: onStop invoked
2022-08-23 12:07:10.764 1723-1723/com.example.myapplication D/Lifecycle: onDestroy invoked
2022-08-23 12:07:19.988 1723-1723/com.example.myapplication D/Lifecycle: onCreate invoked
2022-08-23 12:07:19.989 1723-1723/com.example.myapplication D/Lifecycle: onStrat invoked
2022-08-23 12:07:19.992 1723-1723/com.example.myapplication D/Lifecycle: onResume invoked

››

AIM: *Implementing basic arithmetic operation of a single calculator.*

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter first number" />
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:id="@+id/text1"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter second number"/>
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/text2" />
    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content" />
    <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"/></LinearLayout>
```
Mainactivity.java

```java
package com.example.myapplication1;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;


public class MainActivity extends AppCompatActivity {
    Button b,bb,bc,bd;
    EditText et1,et2;
    TextView tv1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        b=findViewById(R.id.b1);
        bb=findViewById(R.id.b2);
        bc=findViewById(R.id.b3);
        bd=findViewById(R.id.b4);
        et1=findViewById(R.id.et1);
        et2=findViewById(R.id.et2);
        tv1=findViewById(R.id.tv1);
        b.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;
                tv1.setText("Result is="+String.valueOf(r));
            }
        });
        bb.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;
```

```java
                tv1.setText("Result is="+String.valueOf(r));
            }
        });
        bc.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;
                tv1.setText("Result is="+String.valueOf(r));
            }
        });
        bd.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;
                tv1.setText("Result is="+String.valueOf(r));
            }
        });
    }
}
```

Result : Program complied successfully and output verified .

OUTPUT

Aim: Implement validation on various UI control.

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="REGISTRATION"
        android:textColor="@color/design_default_color_error"
        android:textSize="30dp" />
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Name"
        android:id="@+id/name" />
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Mobile No:"
        android:id="@+id/mob" />
    <EditText
        android:layout_width="wrap_content"
        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/black" />
    <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/b1"
           android:text="Male" />
        <RadioButton
           android:layout_width="wrap_content"
           android:layout_height="wrap_content"
           android:id="@+id/b2"
           android:text="Female" />
     </RadioGroup>
     <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="SUBMIT"
        android:id="@+id/button1" />
     <CheckBox
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="I agree all terms and conditions"
        android:id="@+id/checkbox" />

</LinearLayout>
```

Main Activity.java

```java
package com.example.myapplication5;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Context;
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 {
```

```java
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.mob);
    age=findViewById(R.id.age);
    radioGroup=findViewById(R.id.rg);
    male=findViewById(R.id.b1);
    female=findViewById(R.id.b2);
    checkbox=findViewById(R.id.checkbox);
    button=findViewById(R.id.button1);
    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 your
name",Toast.LENGTH_LONG).show();
        return false;
    }
    else if (mobileno.getText().toString().length()==0) {
        Toast.makeText(getApplicationContext(), "please enter your mobile
number",Toast.LENGTH_LONG).show();
        return false;
    }
    else if (mobileno.getText().toString().length()!=10){
        Toast.makeText(getApplicationContext(), "please enter your 10 digit number",
Toast.LENGTH_LONG).show();
        return false;
```

```
        }
        else if (! male.isChecked() && ! female.isChecked()) {
            Toast.makeText(getApplicationContext(), "please enter your  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"?>
<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=".login">

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welcome to Login Page"
        tools:layout_editor_absoluteX="187dp"
        tools:layout_editor_absoluteY="66dp" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

Login.java

```java
package com.example.myapplication;

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

```java
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 complied successfully and output verified .

My Application5
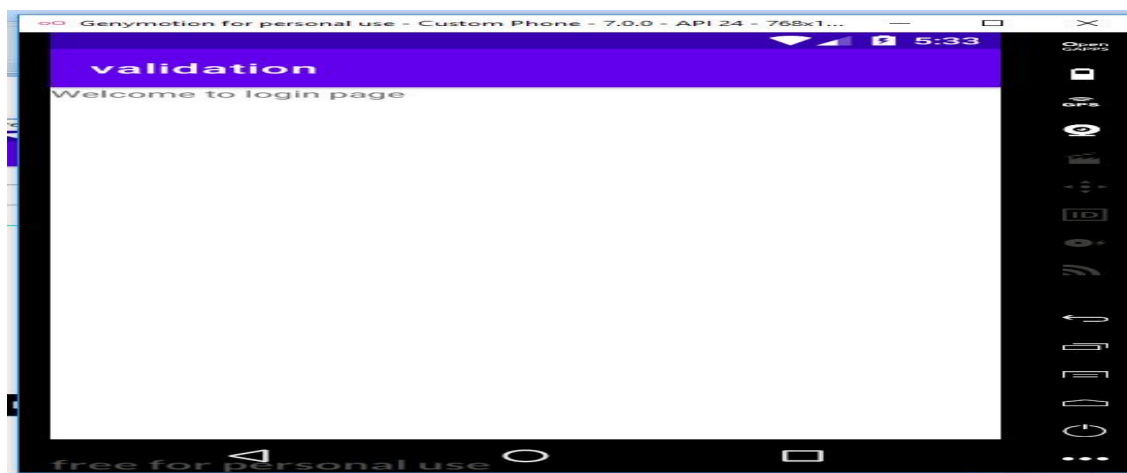
REGISTRATION

Sarang Raju

7012296803

22

GENDER

🔘 Male

⚪ Female

SUBMIT

☑ i agree all terms and conditions

validation

Welcome to login page

free for personal use

PROGRAM NO:05   **Date:26-08-2022**

Aim: Design a registration activity and store registration details in local memory of phone using intents and Shared Preferences.

Program code:

Activity_main.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"
        android:padding="10dp"
```

```xml
        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"
```

```xml
            android:layout_below="@+id/edit6"
            android:text="Submit"/>
</RelativeLayout>
```

Mainactivity.java

```java
package com.example.myapplication6;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

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", "");
```

```java
        int a = sh.getInt("age", 0);
        String s2 = sh.getString("email", "");
        String s3 = sh.getString("address", "");

        String s4 = sh.getString("gender", "");
        String s5 = sh.getString("quali", "");
        name.setText(s1);
        age.setText(String.valueOf(a));
        email.setText(s2);
        address.setText(s3);
        gender.setText(s4);
        quali.setText(s5);
    }
    protected void onPause() {
        super.onPause();
        SharedPreferences sharedPreferences = getSharedPreferences("mysharedpref",
            MODE_PRIVATE);
        SharedPreferences.Editor myEdit = sharedPreferences.edit();
        myEdit.putString("name", name.getText().toString());
        myEdit.putInt("age", Integer.parseInt(age.getText().toString()));
        myEdit.putString("email", email.getText().toString());
        myEdit.putString("address", address.getText().toString());
        myEdit.putString("gender", gender.getText().toString());
        myEdit.putString("quali", quali.getText().toString());
        myEdit.commit();
    }

}
```

Activity_main2.xml

```xml
<?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.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 complied successfully and output verified .

OUTPUT

My Application6

Registration form

sarang

22

njatuvettysaru@gmail.com

njattuvety

male

mca

SUBMIT

4:39

My Application

Welocome

PROGRAM No: 06   **Date:30-08-2022**

Aim: Design a simple Calculator using Grid Layout and Cascaded Linear Layout.

Program Code:

Activity.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:text="Enter your first number"
        android:layout_row="0"
        android:layout_column="0" />
    <EditText
        android:layout_width="50dp"
        android:layout_height="50dp"
        android:id="@+id/n1"
        android:layout_row="1"
        android:layout_column="0"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter your second number"
        android:layout_row="2"
        android:layout_column="0"/>
    <EditText
        android:layout_width="50dp"
        android:layout_height="50dp"
        android:id="@+id/n2"
        android:layout_row="3"
        android:layout_column="0" />
    <LinearLayout
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="vertical">
```

```xml
    <Button
        android:text="ADD"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_row="4"
        android:layout_column="0"
        android:textColor="@color/black"
        android:background="@color/design_default_color_primary"
        android:id="@+id/add"/>
    <Button
        android:text="MUL"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_row="4"
        android:layout_column="1"
        android:textColor="@color/black"
        android:background="@color/design_default_color_primary"
        android:id="@+id/mul"/>
<Button
        android:text="SUB"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_row="4"
        android:layout_column="2"
        android:textColor="@color/black"
        android:background="@color/design_default_color_primary"
        android:id="@+id/sub"/>
    <Button
        android:text="DIV"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_row="4"
        android:layout_column="3"
        android:textColor="@color/black"
        android:background="@color/design_default_color_primary"
        android:id="@+id/div"/>
    </LinearLayout>
    <TextView
        android:hint="RESULT"
        android:layout_width="70dp"
        android:layout_height="50dp"
        android:layout_row="2"
        android:layout_column="2"
        android:id="@+id/result"
        android:textColor="@color/design_default_color_secondary"/>
```

</GridLayout>
Mainactivity.java

```java
package com.example.myapplication1;

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);
        final EditText a=findViewById(R.id.n1) ;
        final EditText b=findViewById(R.id.n2);
        Button add=findViewById(R.id.add);
        Button sub=findViewById(R.id.sub);
        Button mul=findViewById(R.id.mul);
        Button div=findViewById(R.id.div);
        final TextView result=findViewById(R.id.result);
        add.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Double n1=Double.parseDouble(a.getText().toString());
                Double n2=Double.parseDouble(b.getText().toString());
                Double r=n1+n2;
                result.setText(String.valueOf(r));
            }
        } );

        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Double n1=Double.parseDouble(a.getText().toString());
                Double n2=Double.parseDouble(b.getText().toString());
                Double r=n1-n2;
                result.setText(String.valueOf(r));
            }
```

```
        });
        mul.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Double n1=Double.parseDouble(a.getText().toString());
                Double n2=Double.parseDouble(b.getText().toString());
                Double r=n1*n2;
                result.setText(String.valueOf(r));
            }
        });
        div.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Double n1=Double.parseDouble(a.getText().toString());
                Double n2=Double.parseDouble(b.getText().toString());
                Double r=n1/n2;
                result.setText(String.valueOf(r));
            }
        });
} }
```

Result : Program complied successfully and output verified .

OUTPUT :

Aim: Create a Facebook page using Relative Layout ; set properties using .xml file**.**

Program Code:

Activity.xml :

```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="250dp"
            android:id="@+id/banner"
            android:src="@drawable/images1"
            android:scaleType="centerCrop"/>



        <ImageView
            android:layout_marginLeft="15dp"
            android:layout_width="100dp"
            android:layout_height="150dp"
            android:id="@+id/profilepic"
            android:src="@drawable/images2"
            android:layout_alignBottom="@+id/linearLayout"/>



        <LinearLayout


            android:layout_toRightOf="@+id/profilepic"
```

```xml
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/banner"
        android:orientation="horizontal"
        android:weightSum="100"



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



    <Button



            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Timeline"
            android:textSize="5dp"
            android:layout_weight="10"/>



    <Button



            android:layout_weight="10"
            android:textSize="5dp"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="About"/>



    <Button



            android:layout_weight="10"
            android:textSize="5dp"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Friends"/>



    <Button



            android:layout_weight="10"
            android:textSize="5dp"
```

```xml
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="photos"/>


        <Button


            android:layout_weight="10"
            android:textSize="5dp"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="More"/>


    </LinearLayout>


    <EditText


        android:textColor="@color/white"
        android:textStyle="bold"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:inputType="textPersonName"
        android:text="Thasni"
        android:ems="10"
        android:layout_alignParentEnd="true"
        android:layout_marginEnd="55dp"
        android:id="@+id/textName"
        android:layout_alignBottom="@+id/banner"/>


</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">
```

```xml
<LinearLayout

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


    <ImageView


        android:layout_marginLeft="5dp"
        android:layout_marginTop="15dp"
        android:layout_width="25dp"
        android:layout_height="25dp"
        android:src="@drawable/images2"/>


    <EditText


        android:id="@+id/etPost"
        android:layout_marginLeft="10dp"
        android:textSize="15sp"
        android:layout_width="match_parent"
        android:layout_height="60dp"
        android:hint="What's on your mind?"/>


</LinearLayout>


<Button
    android:textSize="10sp"
    android:text="Post"
    android:layout_width="70dp"
    android:layout_height="30dp"
    android:layout_alignParentRight="true"
    android:layout_below="@+id/linearLayout2"/>
</RelativeLayout>
```
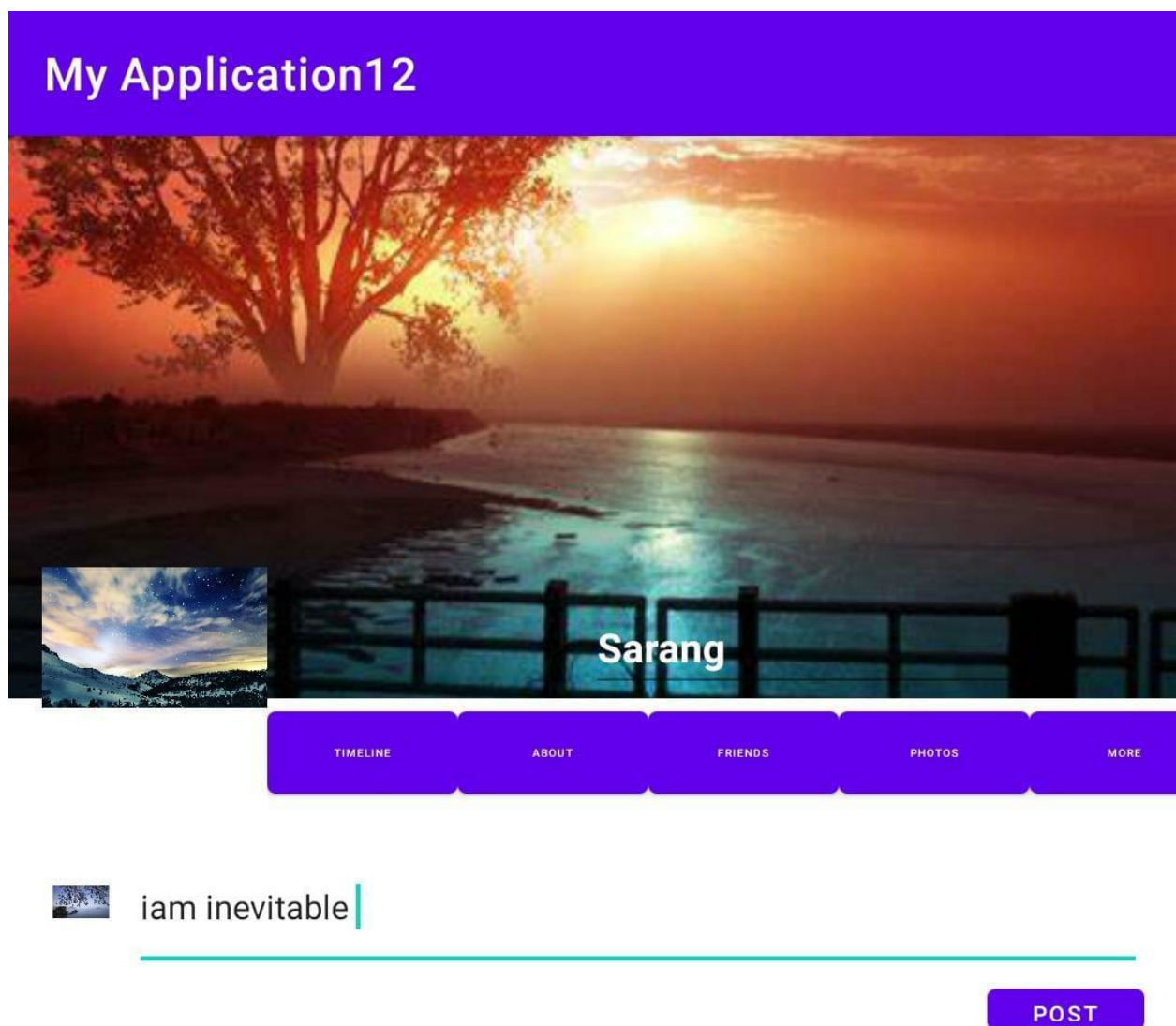
Mainactivity.java

```java
package com.example.myapplication12;

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 complied successfully and output verified .

OUTPUT :

PROGRAM No: 08   **Date:14-09-2022**

Aim: Develop an application that toggle image using frame Layout.

Program Code:

Activity.xml :

```xml
<FrameLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:id="@+id/frameLayout"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent">
    <ImageView
        android:id="@+id/image1"
        android:layout_width="match_parent"
        android:layout_height="239dp"
        android:scaleType="centerCrop"
        android:src="@drawable/images1" /><!--Change image as per your name of image saved
in drawable-->
    <ImageView
        android:id="@+id/image2"
        android:layout_width="match_parent"
        android:layout_height="239dp"
        android:scaleType="centerCrop"
        android:src="@drawable/image2" />
</FrameLayout>
```

Mainactivity.java

```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 complied successfully and output verified .

OUTPUT :

PROGRAM NO:09   **Date:16-09-2022**

Aim: Develop application that works with Implicit intents .

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" />
    <Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="click" />
</LinearLayout>
```

Mainactivity.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;
    Button b1;


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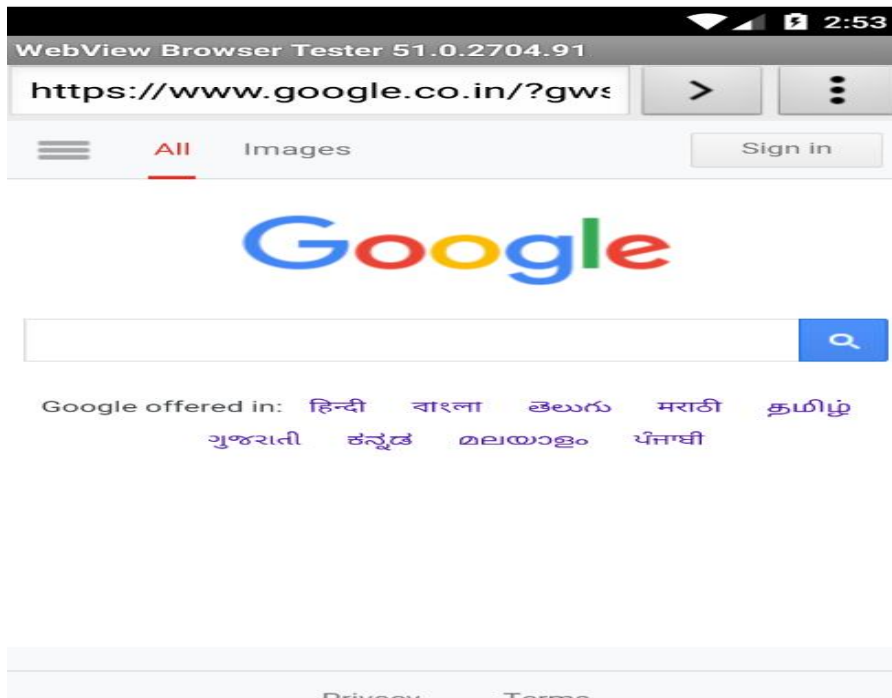
```java
        setContentView(R.layout.activity_main);
        et1=findViewById(R.id.t1);
        b1=findViewById(R.id.btn1);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                String url=et1.getText().toString();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

OUTPUT

PROGRAM NO:10   **Date:20-09-2022**

Aim: Impleent option Menu to navigate to activities**.**

Program code:

Activitymain.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>
```

Mainactivity.java

```java
package com.example.myapplication;

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;

import com.example.myapplication.R;

public class MainActivity extends AppCompatActivity {

    @Override
```

```java
    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);
    }
}
```
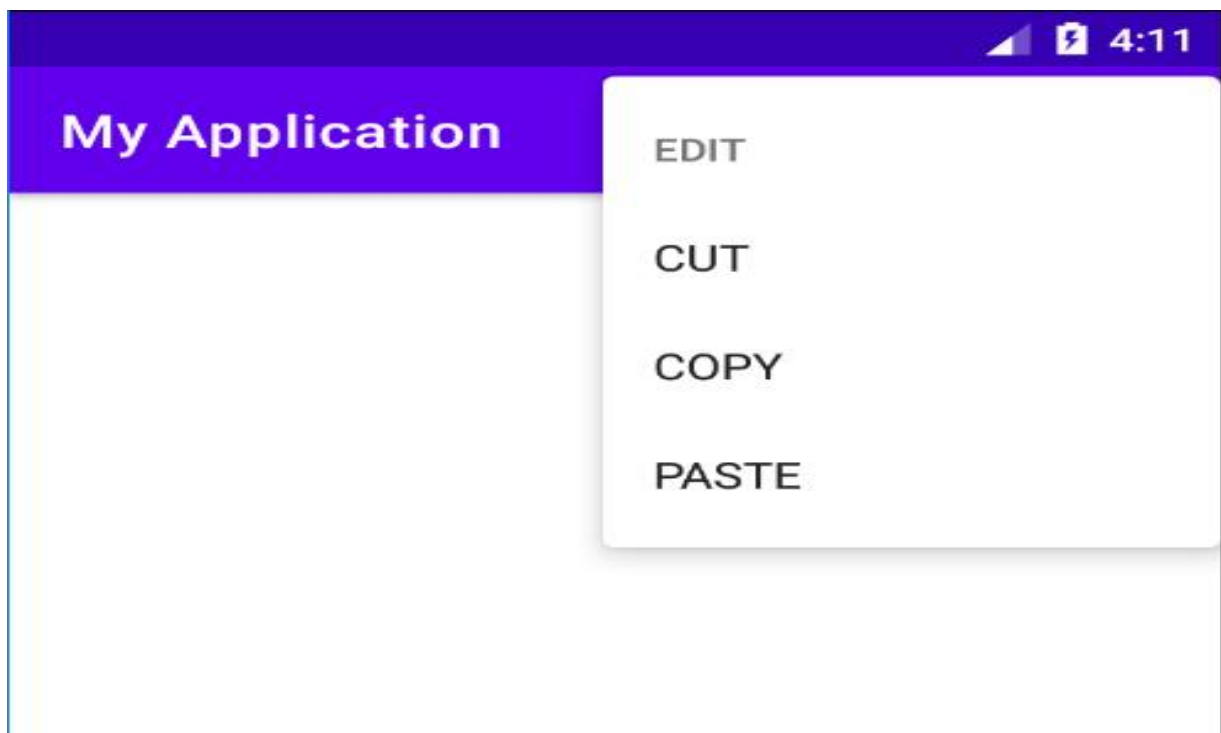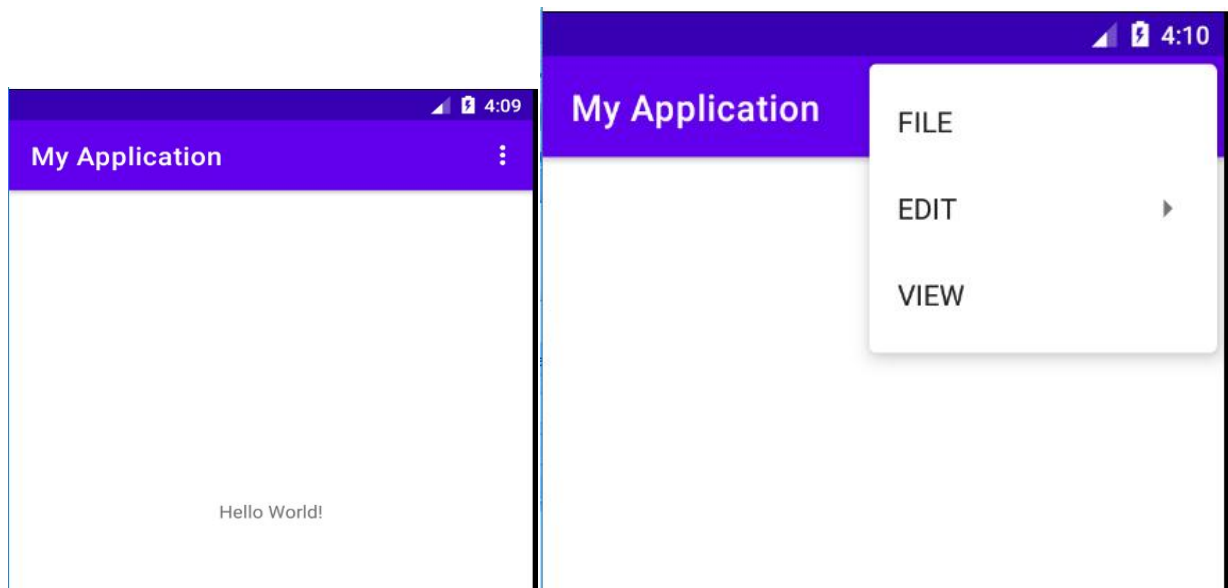
Menu.xml

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

</menu>
```

Result : Program complied successfully and output verified .

OUTPUT

Aim: Develop an application that users Array adapter with List View .

Program Code:

Activity.xml :

```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:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

  <ListView
     android:layout_width="wrap_content"
     android:layout_height="wrap_content"
     android:id="@+id/lv1" />
</RelativeLayout>
```

MainActivity.java

```java
package com.example.myapplication0;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    ListView l;
    String [] p={"Rajendra Prasad(1884-1963)","Radhakrishnan(1888-1993)","Zakir
Husain(1894-1980)"};

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

```java
    l=(ListView)findViewById(R.id.lv1);
    ArrayAdapter <String> adapter=new ArrayAdapter<String>(this,
android.R.layout.simple_list_item_1,p);
    l.setAdapter(adapter);
    l.setOnItemClickListener(new AdapterView.OnItemClickListener() {
        @Override
        public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {
            if(i==0){
                startActivity(new Intent(MainActivity.this,MainActivity2.class));
            }
            else if(i==1){
                startActivity(new Intent(MainActivity.this,MainActivity2.class));
            }
        }
    });
    }
}
```

Result : Program complied successfully and output verified .

OUTPUT

My Application0

A.P.J Abdul Kalam

Sachin Tendulkar

Cristiano Ronaldo

My Application0

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.

Program No: 12

Aim: Perform exception handling

Program Code:

activity_main.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">

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


</RelativeLayout>
```

MainActivity.java

```java
package com.example.exception;

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");
      }
```
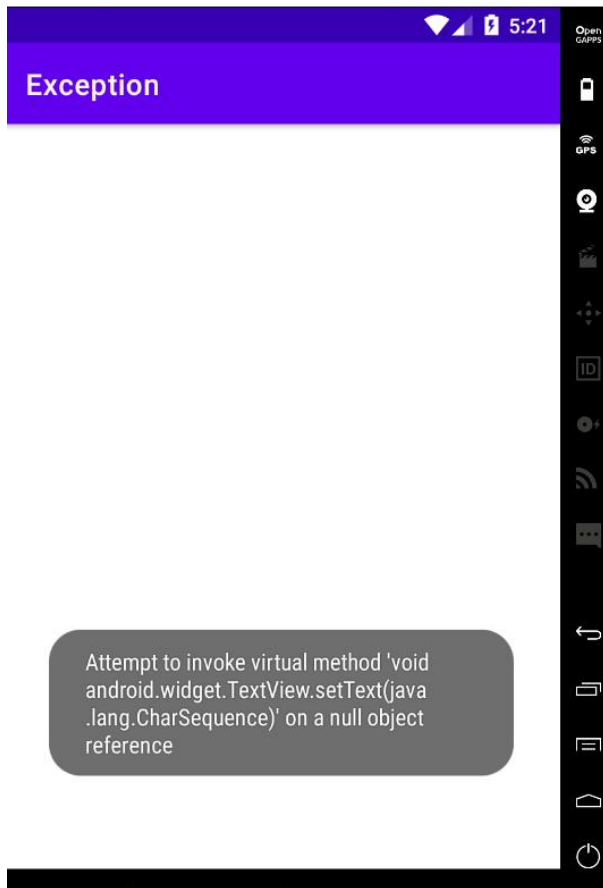
```
    catch (Exception e)
    {
        Toast.makeText( this,e.getMessage(),Toast.LENGTH_LONG).show();
    }

  }
}
```

Result: Program compiled successfully and output verified.

OUTPUT

Program No: 13   **Date:25-10-2022**

Aim: Develop an application that use Grid Layout with images and display Toast on selection.

 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">

    <ImageView
        android:layout_width="400dp"
        android:layout_height="200dp"
        android:id="@+id/tea"
        android:src="@drawable/tea"
        android:scaleType="centerCrop"
        android:layout_row="0"
        android:layout_column="0" />
    <ImageView
        android:layout_width="wrap_content"
        android:layout_height="250dp"
        android:layout_column="0"
        android:scaleType="centerCrop"
        android:src="@drawable/coffee"
        android:id="@+id/coffee"
        android:layout_row="1"/>


</GridLayout>
```

MainActivity.java

```java
package com.example.gridimage;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
```

```java
import android.widget.ImageView;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    ImageView tea,coffee;

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

        tea=findViewById(R.id.tea);
        coffee=findViewById(R.id.coffee);
        tea.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Toast.makeText(getApplicationContext(),"Tea",Toast.LENGTH_SHORT).show();
            }
        });
        coffee.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Toast.makeText(getApplicationContext(),"Coffee",Toast.LENGTH_SHORT).show();
            }
        });
    }
}
```
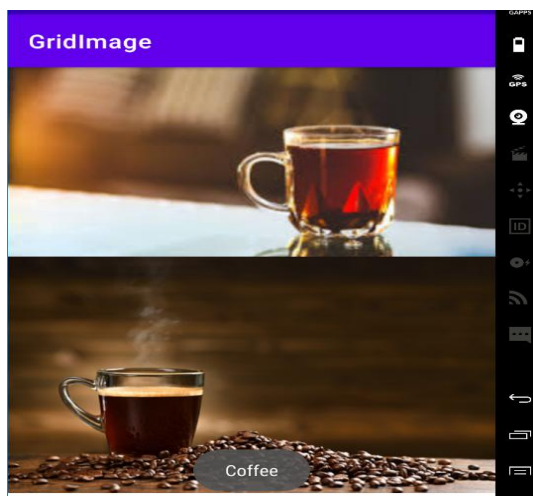
Result: Program compiled successfully and output verified.

OUTPUT

Program No: 14   **Date:28-10-2022**

Aim: Develop an application that implements Spinner component and perform event handling.

 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">


    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:textSize="20dp"
        android:text="Select your nation:">
    </TextView>
    <Spinner
        android:id="@+id/spinner"
        android:layout_width="149dp"
        android:layout_height="40dp"
        android:layout_marginBottom="8dp"
        android:layout_marginEnd="8dp"
        android:layout_marginStart="8dp"
        android:layout_marginTop="8dp"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.502"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent"
        app:layout_constraintVertical_bias="0.498 />

</LinearLayout>
```

MainActivity.java

```java
package com.example.spinner;

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

```java
import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Spinner;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemSelectedListener {
    String[] country={ "India", "USA", "China", "Japan", "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 aa=new ArrayAdapter(this,android.R.layout.simple_spinner_item,country);
        aa.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_item);

        spin.setAdapter(aa);

    }
    @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) {
        // TODO Auto-generated method stub
    }

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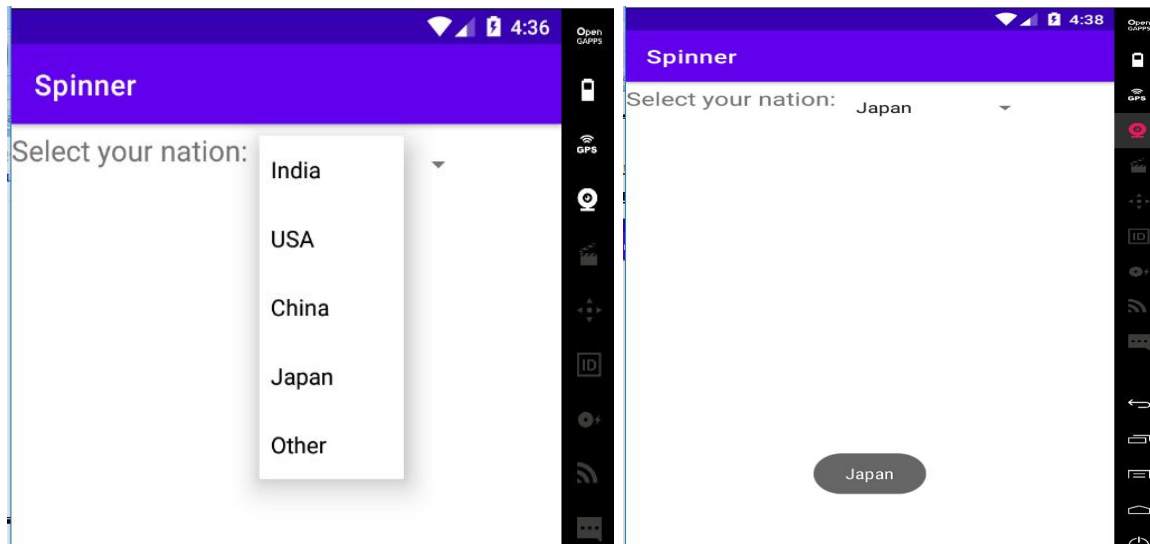
Result: Program compiled successfully and output verified.

Program No: 15 **Date:04-11-2022**

Aim: Implement Navigation drawer.

Program Code:

activity_main.xml

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

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

Navigation_menu.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<menu xmlns:android="http://schemas.android.com/apk/res/android">
    xmlns:tools="http://schemas.android.com/tools"
```

```xml
        tools:ignore="HardcodedText">

    <item
        android:id="@+id/nav_account"
        android:title="My Account" />

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

    <item
        android:id="@+id/nav_logout"
        android:title="Logout" />
</menu>
```

Strings.xml

```xml
<resources>
    <string name="app_name">Navigation Drawer</string>
    <string name="nav_open">Open</string>
    <string name="nav_close">Close</string>
</resources>
```

MainActivity.java

```java
package com.example.navigationdrawer;

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);

    drawerLayout.addDrawerListener(actionBarDrawerToggle);
    actionBarDrawerToggle.syncState();
    getSupportActionBar().setDisplayHomeAsUpEnabled(true);
  }
  @Override
  public boolean onOptionsItemSelected(@NonNull MenuItem item) {

    if (actionBarDrawerToggle.onOptionsItemSelected(item)) {
      return true;
    }
    return super.onOptionsItemSelected(item);
  }
}
```
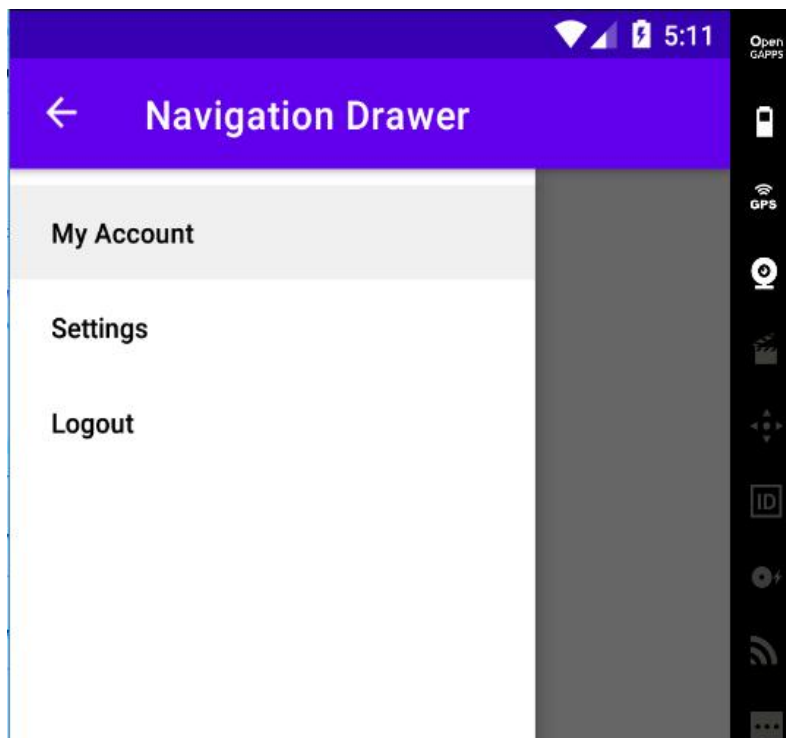
Result: Program compiled successfully and output verified.

OUTPUT

Program No: 16   **Date:11-11-2022**

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

Program Code:

activity_main.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">

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Please enter the details below:"
        android:textSize="24dp"
        android:id="@+id/texttitle"
        />
    <EditText
        android:id="@+id/et1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name"
        android:textSize="24dp"
        android:inputType="textPersonName"
        android:layout_below="@+id/texttitle"/>

    <EditText
        android:id="@+id/et2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Contact"
        android:textSize="24dp"
        android:inputType="number"
        android:layout_below="@+id/et1"/>
    <EditText
        android:id="@+id/et3"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
```

```xml
        android:hint="DOB"
        android:textSize="24dp"
        android:inputType="number"
        android:layout_below="@+id/et2"/>
    <Button
        android:id="@+id/Insert"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="Insert New Data"
        android:layout_below="@+id/et3"/>
    <Button
        android:id="@+id/Update"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="Update Data"
        android:layout_below="@+id/Insert"/>
    <Button
        android:id="@+id/Delete"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="Delete Data"
        android:layout_below="@+id/Update"/>
    <Button
        android:id="@+id/View"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:textSize="24dp"
        android:text="View Data"
        android:layout_below="@+id/Delete"/>


</RelativeLayout>
```

DBHelper.java

```java
package com.example.database;

import android.content.ContentValues;
import android.content.Context;
import android.database.Cursor;
import android.database.sqlite.SQLiteDatabase;
import android.database.sqlite.SQLiteOpenHelper;
```

```java
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
DATE)");
    }
    @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;
```

```java
            }
            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;
    }
}
```

MainActivity4.java

```java
package com.example.database;

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;
```

```java
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.Insert);
        Update = findViewById(R.id.Update);
        Delete = findViewById(R.id.Delete);
        View =findViewById(R.id.View);
        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();
```

```java
            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