

Program No: 01

Date:10-08-2022

Aim: Design a login form with Username and Password using linear layout and toast valid credentials.

Program Code:

activity.xml

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login"
        android:textSize="@dimen/cardview_default_radius"/>

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

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

    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Login"
        android:id="@+id/btn"
        android:layout_marginLeft="140dp"
    />
```

</LinearLayout>

Mainactivity.java

```
package com.example.login;
import androidx.appcompat.app.AppCompatActivity;

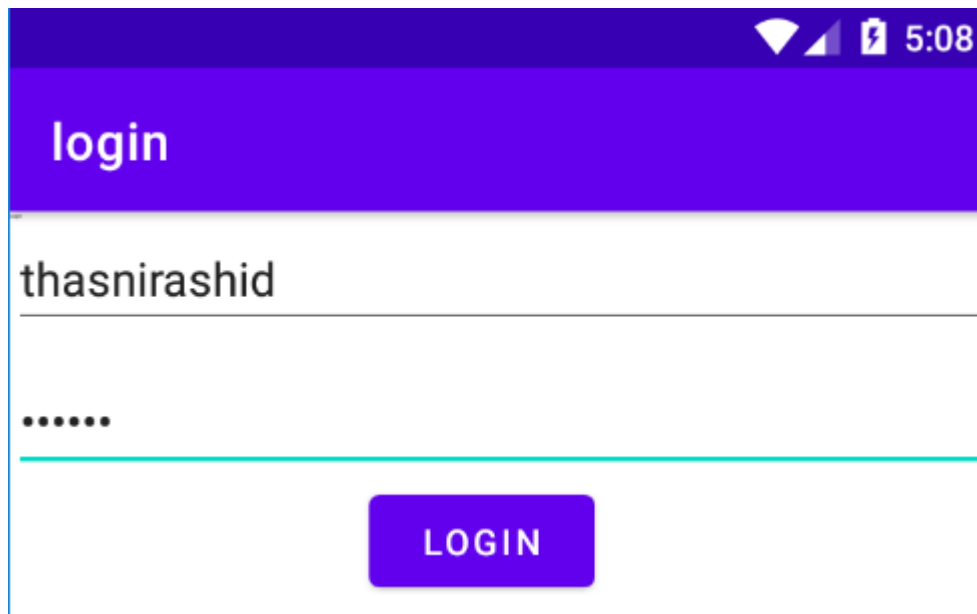
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {

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

Result: Program compiled successfully and output verified.

Output



A screenshot of a mobile application's login screen. The status bar at the top shows a Wi-Fi icon, a cellular signal icon, a battery icon, and the time 5:08. The app's title bar is blue and contains the word "login" in white. Below the title bar, there is a text input field containing the username "thasnirashid". Below the username field is another text input field for the password, represented by seven dots. A red horizontal line separates the password field from the login button. The login button is a blue rounded rectangle with the word "LOGIN" in white capital letters.

Program No: 02

Date:16-08-2022

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

Program Code:

activity.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
```

Mainactivity.java

```
package com.example.myapplication;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.util.Log;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        Log.d("lifecycle", "onCreate invoked");
    }

    @Override
    protected void onStart() {
        super.onStart();
    }
}
```

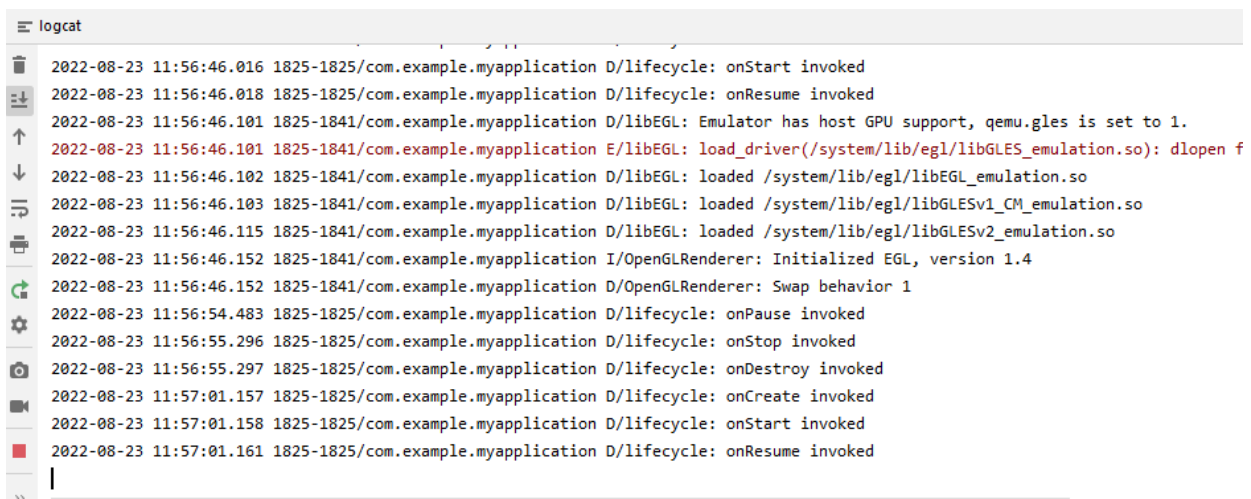
```

        Log.d("lifecycle", "onStart invoked");
    }
    @Override
    protected void onResume() {
        super.onResume();
        Log.d("lifecycle", "onResume invoked");
    }
    @Override
    protected void onPause() {
        super.onPause();
        Log.d("lifecycle", "onPause invoked");
    }
    @Override
    protected void onStop() {
        super.onStop();
        Log.d("lifecycle", "onStop invoked");
    }
    @Override
    protected void onRestart() {
        super.onRestart();
        Log.d("lifecycle", "onRestart invoked");
    }
    @Override
    protected void onDestroy() {
        super.onDestroy();
        Log.d("lifecycle", "onDestroy invoked");
    }
}

```

Result: Program compiled successfully and output verified.

Output



```

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

```

Program No: 03

Date:19-08-2022

Aim:Implementing basic arithmetic operations of a simple calculator.

Program Code:

activity.xml

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Simple calculator"/>
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Enter 1st number"/>
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter 1st number"
        android:id="@+id/n1"/>
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="Enter the 2nd number"/>
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="Enter the 2nd number"
        android:id="@+id/n2"/>
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/t1"/>
    <LinearLayout
        android:layout_width="wrap_content"
```

```

        android:layout_height="wrap_content">
        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Add"
            android:id="@+id/b1"/>
        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Sub"
            android:id="@+id/b2"/>
        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Mul"
            android:id="@+id/b3"/>
        <Button
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="Div"
            android:id="@+id/b4"/>
    </LinearLayout>

</LinearLayout>

```

Mainactivity.java

```

package com.example.calculator;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        EditText t1=findViewById(R.id.n1);
        EditText t2=findViewById(R.id.n2);
        Button add=findViewById(R.id.b1);
        Button sub=findViewById(R.id.b2);
    }
}

```

```

Button mul=findViewById(R.id.b3);
Button div=findViewById(R.id.b4);
TextView tv1=findViewById(R.id.t1);
add.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Double a1 = Double.parseDouble(t1.getText().toString());
        Double a2 = Double.parseDouble(t2.getText().toString());
        Double r = a1 + a2;
        tv1.setText("Result is: " + String.valueOf(r));
    }
});
sub.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Double s1=Double.parseDouble(t1.getText().toString());
        Double s2=Double.parseDouble(t2.getText().toString());
        Double r=s1-s2;
        tv1.setText("Result is: "+String.valueOf(r));
    }
});
mul.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Double m1 = Double.parseDouble(t1.getText().toString());
        Double m2 = Double.parseDouble(t2.getText().toString());
        Double r = m1 * m2;
        tv1.setText("Result is" + String.valueOf(r));
    }
});
div.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Double d1=Double.parseDouble(t1.getText().toString());
        Double d2=Double.parseDouble(t2.getText().toString());
        Double r=d1/d2;
        tv1.setText("Result is" +String.valueOf(r));
    }
});
}
}

```

Result: Program compiled successfully and output verified.

Output

calculator

Simple calculator
Enter 1st number

45

Enter the 2nd number

10

Result is: 55.0

ADD SUB MUL DIV

calculator

Simple calculator
Enter 1st number

100

Enter the 2nd number

45

Result is: 55.0

ADD SUB MUL DIV

calculator

Simple calculator
Enter 1st number

34

Enter the 2nd number

2

Result is68.0

ADD SUB MUL DIV

calculator

Simple calculator
Enter 1st number

15

Enter the 2nd number

5

Result is3.0

ADD SUB MUL DIV

Program No: 04

Date:23-08-2022

Aim:Implement validation on various UI controls.

Program Code:

activity.xml

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

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="REGISTRATION"
        android:textColor="@color/design_default_color_error"
        android:textSize="30dp"/>

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

    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="MOBILE NUMBER"
        android:id="@+id/mobile"/>

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="GENDER"
        android:textSize="20dp"
        android:textColor="@color/design_default_color_primary"/>

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

```

        android:id="@+id/RG">
        <RadioButton
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/radiobutton1"
            android:text="Male"/>
        <RadioButton
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:id="@+id/radiobutton2"
            android:text="Female"/>
    </RadioGroup>
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Submit"
        android:id="@+id/button"/>
    <CheckBox
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="i agree all terms and conditions"
        android:id="@+id/checkbox"/>
</LinearLayout>

```

Mainactivity.java

```

package com.example.validation;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.Toast;

public class MainActivity extends AppCompatActivity {
    EditText name;
    EditText mobileno;
    EditText age;
    RadioGroup radiogroup;
    RadioButton male;
    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);  
    mobilenumber=findViewById(R.id.mobile);  
    age=findViewById(R.id.age);  
    radiogroup=findViewById(R.id.RG);  
    male=findViewById(R.id.radiobutton1);  
    female=findViewById(R.id.radiobutton2);  
    checkbox=findViewById(R.id.checkbox);  
    button=findViewById(R.id.button);  
    button.setOnClickListener(new View.OnClickListener() {  
        @Override  
        public void onClick(View view) {  
            if (error()){  
                Intent i=new Intent(MainActivity.this,login.class);  
                startActivity(i);  
            }  
        }  
    });  
}  
private boolean error(){  
    if (name.getText().toString().length()==0){  
        Toast.makeText(getApplicationContext(),"Please enter the  
name",Toast.LENGTH_LONG).show();  
        return false;  
    }else if (mobilenumber.getText().toString().length()==0){  
        Toast.makeText(getApplicationContext(),"please enter mobile  
number",Toast.LENGTH_LONG).show();  
        return false;  
    }  
    else if (mobilenumber.getText().toString().length()!=10){  
        Toast.makeText(getApplicationContext(),"please enter 10  
numbers",Toast.LENGTH_LONG).show();  
        return false;  
    }  
    else if (!male.isChecked() && !female.isChecked()){  
        Toast.makeText(getApplicationContext(),"please choose radio  
button",Toast.LENGTH_LONG).show();  
        return false;  
    }else if (!checkbox.isChecked()){  
        Toast.makeText(getApplicationContext(),"Please click on
```

```
checkbox",Toast.LENGTH_LONG).show();
    return false;
}else {
    return true;
}
}
}
```

activity_login.xml

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

    <TextView
        android:id="@+id/textView"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welcome to my login page"
        tools:layout_editor_absoluteX="121dp"
        tools:layout_editor_absoluteY="194dp" />
</LinearLayout>
```

Login.java

```
package com.example.validation;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

public class login extends AppCompatActivity {

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

Result: Program compiled successfully and output verified.

Output

validation

REGISTRATION

Thasni Rashid

MOBILE NUMBER

22

GENDER

☐ Male

☒ Female

SUBMIT

☐ i agree all terms and conditions

please enter mobile number

Program No: 05

Date:26-08-2022

Aim: Design a registration activity and store registration details in local memory of phone using intent and shared preferences.

Program Code:

activity.xml

```
<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity"
    tools:ignore="HardcodedText">

    <TextView
        android:id="@+id/textview"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="32dp"
        android:text="Registration form"
        android:textColor="@android:color/black"
        android:textSize="24sp"/>
    <EditText
        android:id="@+id/edit1"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/textview"
        android:layout_marginStart="16dp"
        android:layout_marginTop="8dp"
        android:layout_marginEnd="16dp"
        android:hint="Enter your name"
        android:padding="10dp"/>
    <EditText
        android:id="@+id/edit2"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_below="@+id/edit1"
        android:layout_marginStart="16dp"
        android:layout_marginTop="8dp"
        android:layout_marginEnd="16dp"
        android:hint="Enter your age"
        android:padding="10dp">
```

```

        android:inputType="number"/>
<EditText
    android:id="@+id/edit3"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/edit2"
    android:layout_marginStart="16dp"
    android:layout_marginTop="8dp"
    android:layout_marginEnd="16dp"
    android:hint="Enter your Email id"
    android:padding="10dp"/>
<EditText
    android:id="@+id/edit4"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/edit3"
    android:layout_marginStart="16dp"
    android:layout_marginTop="8dp"
    android:layout_marginEnd="16dp"
    android:hint="Enter your Address"
    android:padding="10dp"/>
<EditText
    android:id="@+id/edit5"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/edit4"
    android:layout_marginStart="16dp"
    android:layout_marginTop="8dp"
    android:layout_marginEnd="16dp"
    android:hint="Enter your gender"
    android:padding="10dp"/>
<EditText
    android:id="@+id/edit6"
    android:layout_width="match_parent"
    android:layout_height="wrap_content"
    android:layout_below="@+id/edit5"
    android:layout_marginStart="16dp"
    android:layout_marginTop="8dp"
    android:layout_marginEnd="16dp"
    android:hint="Enter your Qualification"
    android:padding="10dp"/>
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:id="@+id/b1"
    android:layout_below="@+id/edit6"

```



```
        android:text="Submit"/>
</RelativeLayout>
```

MainActivity.java

```
package com.example.sharedpreference;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.content.SharedPreferences;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
    private EditText name,age,email,address,gender,quali;
    Button b1;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        name=findViewById(R.id.edit1);
        age=findViewById(R.id.edit2);
        email=findViewById(R.id.edit3);
        address=findViewById(R.id.edit4);
        gender=findViewById(R.id.edit5);
        quali=findViewById(R.id.edit6);
        b1=findViewById(R.id.b1);
        b1.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Intent i=new Intent(MainActivity.this,MainActivity2.class);
                startActivity(i);
            }
        });
    }
    protected void onResume() {
        super.onResume();
        SharedPreferences sh = getSharedPreferences("mysharedpref", MODE_PRIVATE);
        String s1 = sh.getString("name", "");
        int a = sh.getInt("age", 0);
        String s2 = sh.getString("email", "");
        String s3 = sh.getString("address", "");
    }
}
```

```

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

```

activity_main2.xml

```

<?xml version="1.0" encoding="utf-8"?>
<RelativeLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity2">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Welocome"/>
</RelativeLayout>

```

MainActivity2.java

```

package com.example.sharedpreference;

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



Registration form

Thasni Rashid

22

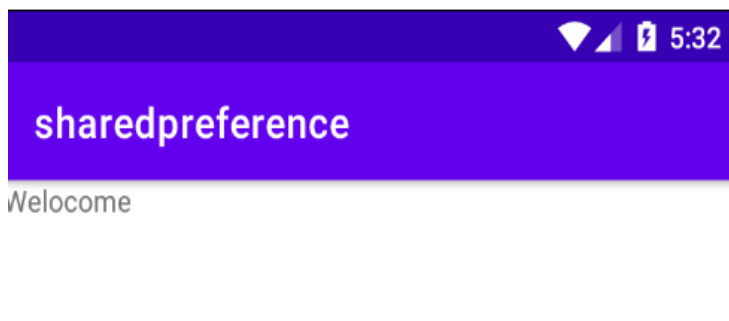
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Female

MCA

SUBMIT



Program No: 06

Date:30-08-2022

Aim:Design a simple calculator using GridLayout.

Program Code:

Activity_main.xml

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

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Enter 1st num"
        android:layout_row="0"
        android:layout_column="0"/>
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        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 1st num"
        android:layout_row="2"
        android:layout_column="0"/>
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:id="@+id/n2"
        android:layout_row="3"
        android:layout_column="0"/>
    <Button
        android:text="ADD"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_row="4"
        android:layout_column="2">
```

```

        android:textColor="@color/white"
        android:background="@color/design_default_color_error"
        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/white"
    android:background="@color/design_default_color_error"
    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="0"
    android:textColor="@color/white"
    android:background="@color/design_default_color_error"
    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/white"
    android:background="@color/design_default_color_error"
    android:id="@+id/div"/>

<TextView
    android:hint="Result"
    android:width="70dp"
    android:height="50dp"
    android:layout_row="2"
    android:layout_column="2"
    android:id="@+id/result"
    android:textColor="@color/design_default_color_error"/>
</GridLayout>

```

MainActivity.java

```

package com.example.calculator;

import androidx.appcompat.app.AppCompatActivity;

```

```

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

public class MainActivity extends AppCompatActivity {

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

        EditText a = findViewById(R.id.n1);
        EditText b = findViewById(R.id.n2);

        Button add = findViewById(R.id.add);
        Button mul = findViewById(R.id.mul);
        Button sub = findViewById(R.id.sub);
        Button div = findViewById(R.id.div);
        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 compiled successfully and output verified.

Output

<div>calculator</div> <div>Enter 1st num</div> <div>124</div> <div>Enter 2nd num</div> <div>4.0</div> <div>120</div> <div> <div>SUB</div> <div>MUL</div> <div>ADD</div> <div>DIV</div> </div>	<div>calculator</div> <div>Enter 1st num</div> <div>123</div> <div>Enter 2nd num</div> <div>246.0</div> <div>2</div> <div> <div>SUB</div> <div>MUL</div> <div>ADD</div> <div>DIV</div> </div>
<div>calculator</div> <div>Enter 1st num</div> <div>1256</div> <div>Enter 2nd num</div> <div>1262.0</div> <div>6</div> <div> <div>SUB</div> <div>MUL</div> <div>ADD</div> <div>DIV</div> </div>	<div>calculator</div> <div>Enter 1st num</div> <div>150</div> <div>Enter 2nd num</div> <div>30.0</div> <div>5</div> <div> <div>SUB</div> <div>MUL</div> <div>ADD</div> <div>DIV</div> </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="250dp"
            android:id="@+id/banner"
            android:src="@drawable/image1"
            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"
            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"
        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">
        <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>
</RelativeLayout>

```

MainActivity.java

```

package com.example.facebook;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

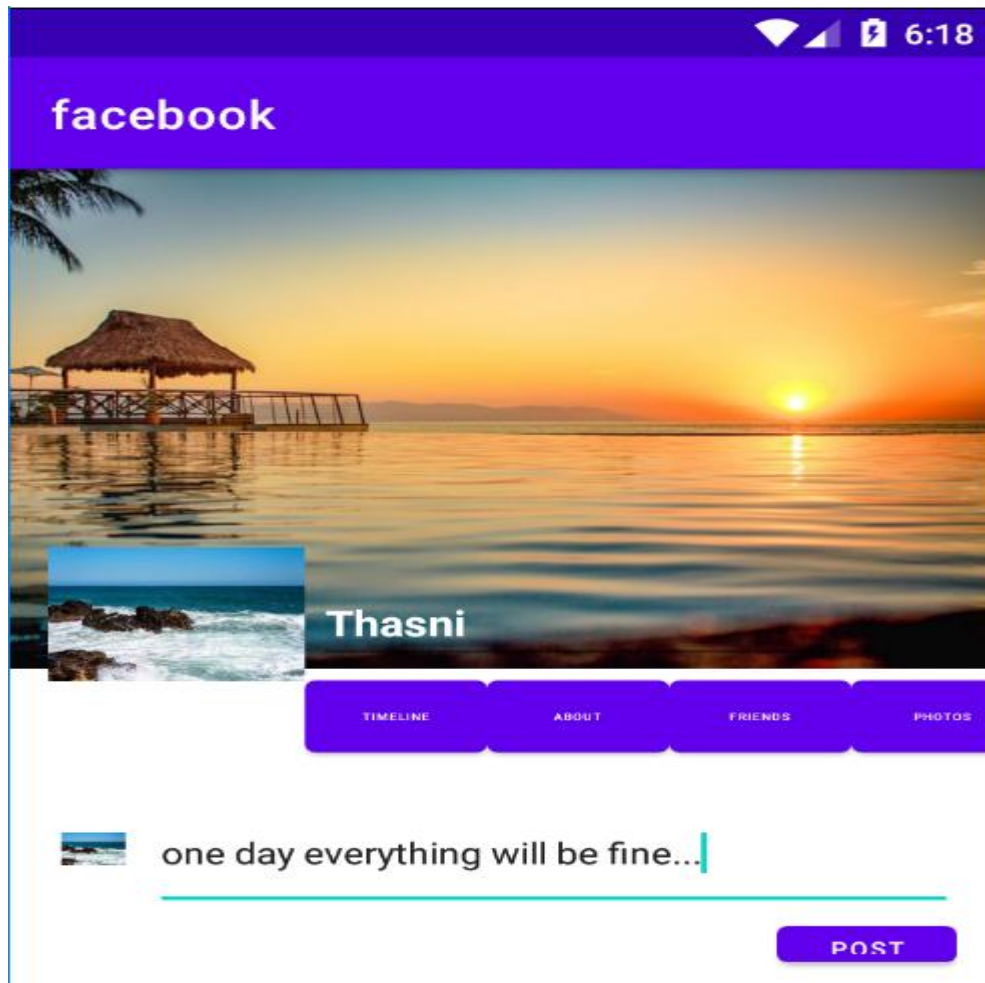
public class MainActivity extends AppCompatActivity {

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

```

Result: Program compiled successfully and output verified.

Output



Program No:08

Date:14-09-2022

Aim:Develop an application that 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"
    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="400dp"
        android:scaleType="center"
        android:src="@drawable/sea2"/>
    <ImageView
        android:id="@+id/image2"
        android:layout_width="match_parent"
        android:layout_height="400dp"
        android:scaleType="centerCrop"
        android:src="@drawable/sea3"/>
</FrameLayout>
```

MainActivity.java

```
package com.example.toggle;

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



Program No: 09

Date:16-09-2022

Aim: Web application to implement implicit intent.

Program Code:

activity.xml

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

    <EditText
        android:id="@+id/t1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="http://www.google.co.in"
        android:textColor="@color/design_default_color_secondary"/>

    <Button
        android:id="@+id/btn1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="click"
        android:textColor="@color/design_default_color_error"/>

</LinearLayout>
```

MainActivity.java

```
package com.example.implicit_intent;

import androidx.appcompat.app.AppCompatActivity;

import android.content.Intent;
import android.net.Uri;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends AppCompatActivity {
    EditText et1;
    Button b1;
```

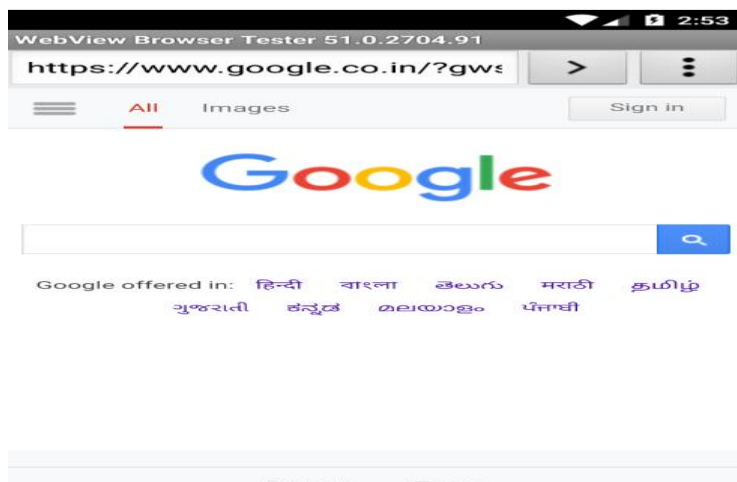
```

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

```

Result: Program compiled successfully and output verified.

Output



Program No: 10

Date:20-09-2022

Aim: Implement options menu to navigate two activities.

Program Code:

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Hello World!"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintLeft_toLeftOf="parent"
        app:layout_constraintRight_toRightOf="parent"
        app:layout_constraintTop_toTopOf="parent" />

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

menu.xml

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



```

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

</menu>

```

MainActivity.java

```

package com.example.option_menu;

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

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

public class MainActivity extends AppCompatActivity {

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

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

    @Override
    public boolean onOptionsItemSelected(@NonNull MenuItem item) {
        switch (item.getItemId()) {
            case R.id.item1:
                Toast.makeText(getApplicationContext(), "File
selected", Toast.LENGTH_SHORT).show();
                break;
            case R.id.item2:
                Toast.makeText(getApplicationContext(), "Edit
selected", Toast.LENGTH_SHORT).show();
                break;
            case R.id.item3:
                Toast.makeText(getApplicationContext(), "Cut
selected", Toast.LENGTH_SHORT).show();
                break;
        }
    }
}

```

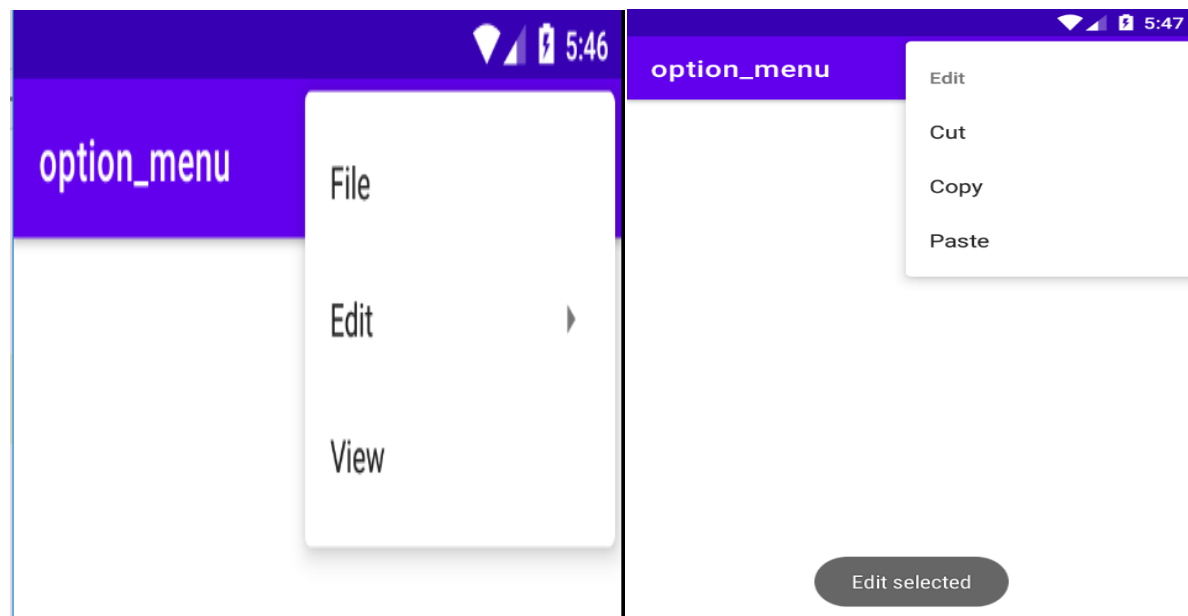
```

        case R.id.item2:
            Toast.makeText(getApplicationContext(),"Copy
selected",Toast.LENGTH_SHORT).show();
            break;
        case R.id.item3:
            Toast.makeText(getApplicationContext(),"Paste
selected",Toast.LENGTH_SHORT).show();
            break;
        case R.id.item3:
            Toast.makeText(getApplicationContext(),"View
selected",Toast.LENGTH_SHORT).show();
            break;
    }
    return super.onOptionsItemSelected(item);
}
}

```

Result: Program compiled successfully and output verified.

Output



Program No:11

Date:27-09-2022

Aim: Develop an application that uses ArrayAdapter with ListView.

Program Code:

Activity_main.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    app:layout_behavior="@string/appbar_scrolling_view_behavior"
    tools:context=".MainActivity"
    tools:showIn="@layout/activity_main">

    <ListView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:id="@+id/l1"/>

</LinearLayout>
```

MainActivity.java

```
package com.example.array_adapter;

import androidx.appcompat.app.AppCompatActivity;

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

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

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

```

l=findViewById(R.id.l);
ArrayAdapter<String>adapter=new ArrayAdapter<String>(this,
android.R.layout.simple_list_item_1,p);
l.setAdapter(adapter);
l.setOnItemClickListener(new AdapterView.OnItemClickListener() {
    @Override
    public void onItemClick(AdapterView<?> adapterView, View view, int i, long l) {
        if(i==0)
        {
            Intent s=new Intent(MainActivity.this,MainActivity2.class);
            startActivity(s);
        }
        else if (i==1)
        {
            Intent s=new Intent(MainActivity.this,MainActivity3.class);
            startActivity(s);
        }
        else if (i==2)
        {
            Intent s=new Intent(MainActivity.this,MainActivity4.class);
            startActivity(s);
        }
    }
});
}
}

```

Activity_main2.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
tools:context=".MainActivity2">
<TextView
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:text="Born on 15th October 1931 at Rameswaram in Tamil Nadu, Dr.Avul Pakir
Jainulabdeen Abdul Kalam specialized in Aeronautical Engineering from Madras Institute of
Technology."/>
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity2.java

```
package com.example.array_adapter;

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);
    }
}
```

Activity_main3.xml

```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity3">
    <TextView
        android:layout_width="match_parent"
        android:layout_height="match_parent"
        android:text="Sachin Tendulkar was the most complete batter of his time, the most prolific
run-maker of all time, and arguably the biggest cricket icon the game has ever known."/>
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity3.java

```
package com.example.array_adapter;

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);
}
}

```

Activity_main4.xml

```

<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
    xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity4">
<TextView
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:text="In February 2021, Ronaldo became the first person in the world to reach 500
million followers across Facebook, Instagram and Twitter."/>
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity4.java

```

package com.example.array_adapter;

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

array_adapter

A.P.J Abdul Kalam

Sachin Tendulkar

Cristiano Ronaldo

array_adapter

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

Date:12-10-2022

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.exceptionhandling;

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

exception handling

Attempt to invoke virtual method 'void android.widget.TextView.setText(java.lang.CharSequence)' on a null object reference

Program No:13

Date:25-10-2022

Aim: Develop an application that use Grid layout with images and display Alertbox 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="400dp"
        android:layout_height="200dp"
        android:id="@+id/messi"
        android:src="@drawable/messi"
        android:scaleType="centerCrop"
        android:layout_row="0"
        android:layout_column="0" />
    <ImageView
        android:layout_width="wrap_content"
        android:layout_height="400dp"
        android:layout_column="0"
        android:scaleType="centerCrop"
        android:src="@drawable/ronaldo"
        android:id="@+id/ronaldo"
        android:layout_row="1"/>
</GridLayout>
```

MainActivity.java

```
package com.example.gridviewimage;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.ImageView;
import android.widget.Toast;
```

```

public class MainActivity extends AppCompatActivity {
    ImageView messi,ronaldo;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        messi=findViewById(R.id.messi);
        ronaldo=findViewById(R.id.ronaldo);
        messi.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Toast.makeText(getApplicationContext(),"Messi",Toast.LENGTH_LONG).show();
            }
        });
        ronaldo.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                Toast.makeText(getApplicationContext(),"Ronaldo",Toast.LENGTH_LONG).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 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:textSize="20dp"
        android:text="Select your nation"/>

    <Spinner
        android:id="@+id/spinner"
        android:layout_width="149dp"
        android:layout_height="40dp"
        android:layout_marginBottom="8dp"
        android:layout_marginStart="8dp"
        android:layout_marginEnd="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"
        />

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

MainActivity.java

```
package com.example.spinner;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
```

```

import android.view.View;
import android.widget.AdapterView;
import android.widget.AdapterView;
import android.widget.AdapterView;
import android.widget.AdapterView;
import android.widget.AdapterView;

public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemClickListener { String[]
country={"India","USA","America","Canada","Others"};

@Override
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    Spinner spin=(Spinner)findViewById(R.id.spinner);
    spin.setOnItemClickListener(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 onItemClick(AdapterView<?> arg0, View arg1, int position, long id)
{
    Toast.makeText(getApplicationContext(),country[position],Toast.LENGTH_LONG).show();
}
public void onNothingSelected(AdapterView<?> adapterView){
}

}

```

Result: Program compiled successfully and output verified.

Output

spinner

Select your nation

India

USA

America

Canada

Others

spinner

Select your nation

Canada

Canada

Program No:15

Date:04-11-2022

Aim: Implement Navigation drawer.

Program Code:

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

```

<resources>
    <string name="app_name">Navigationdrawer</string>
    <string name="nav_open">Open</string>
    <string name="nav_close">Close</string>
</resources>

```

MainActivity.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);
    }
}

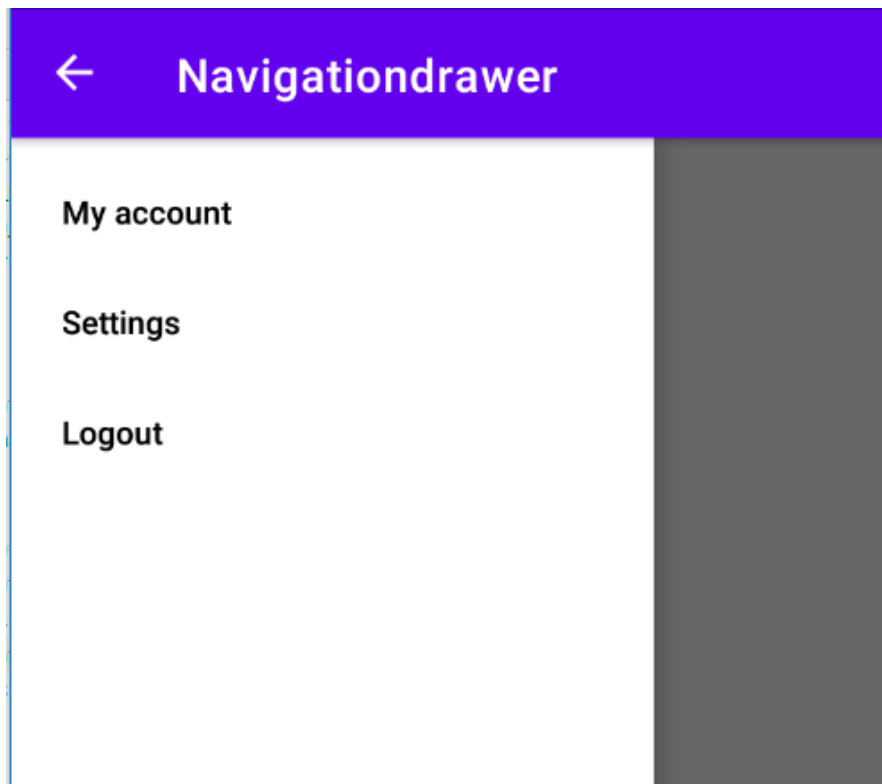
```



```
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 a database using SQLite and perform INSERT,SELECT,UPDATE and DELETE operations.

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"
    android:orientation="horizontal">
    <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:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:hint="Name"
        android:textSize="24dp"
        android:inputType="textPersonName"
        android:id="@+id/et1"
        android:layout_below="@+id/texttitle"/>
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="contact"
        android:textSize="24dp"
        android:inputType="number"
        android:id="@+id/et2"
        android:layout_below="@+id/et1"/>
    <EditText
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:hint="DOB"
        android:textSize="24dp"
        android:inputType="number"
        android:id="@+id/et3">
```

```

        android:layout_below="@+id/et2"/>
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Insert"
    android:textSize="24dp"
    android:id="@+id/Insert"
    android:layout_below="@id/et3"/>
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Update"
    android:textSize="24dp"
    android:id="@+id/Update"
    android:layout_below="@+id/Insert"/>
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Delete"
    android:textSize="24dp"
    android:id="@+id/Delete"
    android:layout_below="@+id/Update"/>
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="View"
    android:id="@+id/View"
    android:textSize="24dp"
    android:layout_below="@+id/Delete"/>
</RelativeLayout>

```

DBHelper.java

```

package com.example.pgm12;
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.Nullable;

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

```

```

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

    }
    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("name",name);
        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;
}
}

```

MainAvtivity.java

```

package com.example.pgm12;
import androidx.appcompat.app.AlertDialog;
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 android.database.Cursor;

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 is not
inserted",Toast.LENGTH_LONG).show();

    }
});
Update.setOnClickListener(new View.OnClickListener() {
    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("date of birth:" + res.getString(2) + "\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

