

**1) Design a Login Form with username and password using
LinearLayout and toast valid credentials.**

Aim:

To design a Login Form with username and password using LinearLayout and toast valid credentials.

Source Code:

Xml code (Login)

```
<?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:id="@+id/b1"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/username"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="100dp"
        android:layout_marginTop="250dp"
        android:layout_marginEnd="100dp"
        android:ems="10"
        android:hint="Username"
        android:inputType="textPersonName"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintStart_toStartOf="parent"
```

```

        app:layout_constraintTop_toTopOf="parent" />
<EditText
    android:id="@+id/password"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="100dp"
    android:layout_marginTop="10dp"
    android:layout_marginEnd="100dp"
    android:layout_marginBottom="100dp"
    android:ems="10"
    android:hint="Password"
    android:inputType="textPassword"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toBottomOf="@+id/username"
    app:layout_constraintVertical_bias="0.099" />
<Button
    android:id="@+id/btn1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="100dp"
    android:layout_marginTop="10dp"
    android:layout_marginEnd="100dp"
    android:layout_marginBottom="100dp"
    android:text="LOGIN"
    app:layout_constraintBottom_toBottomOf="parent"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"

```

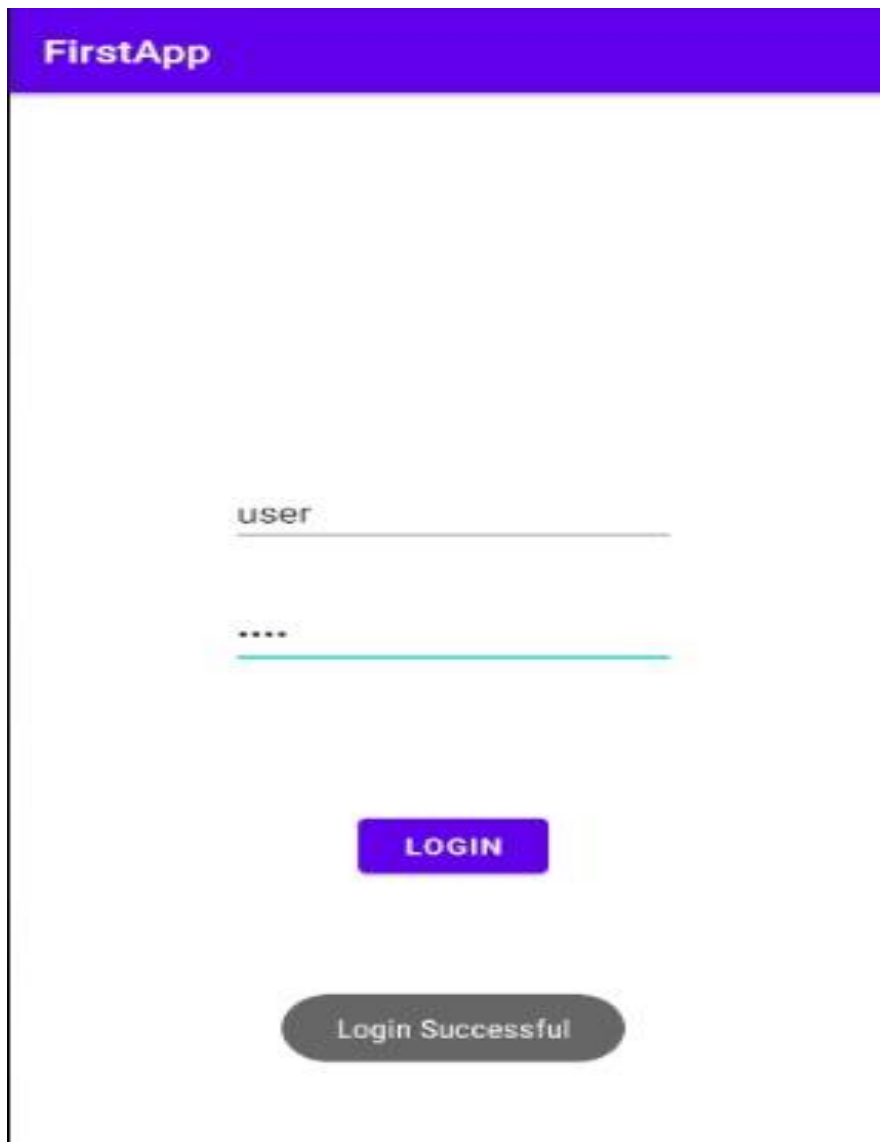
```
app:layout_constraintTop_toBottomOf="@+id/password" />
</androidx.constraintlayout.widget.ConstraintLayout>
```

MainActivity.java

```
package com.example.FirstApp.;
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 {
    EditText uname,pwd;
    Button loginbtn;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        uname=(EditText) findViewById(R.id.username);
        pwd=(EditText) findViewById(R.id.password);
        loginbtn=(Button) findViewById(R.id.btn1);
        loginbtn.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                validate(uname.getText().toString(),pwd.getText().toString());
            }
        });
    }
    private void validate(String uname,String pwd){
        if(uname.equals("admin") && pwd.equals("123"))
```

```
{  
    Toast.makeText(getApplicationContext(),"Login  
Successful",Toast.LENGTH_SHORT).show();  
}  
else  
    Toast.makeText(getApplicationContext(),"Login  
Failed",Toast.LENGTH_LONG).show();  
}  
}
```

OUTPUT



2) Implementing the basic arithmetic operations of a simple calculator.

Aim:

To implementing the basic arithmetic operations of a simple calculator.

Source code:

Xml code

```
<?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:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="40dp"
        android:layout_marginTop="156dp"
        android:text="Enter Number 1"
        app:layout_constraintStart_toStartOf="parent"
        app:layout_constraintTop_toTopOf="parent" />
    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginStart="44dp"
        android:layout_marginTop="80dp"
        android:text="Enter Number 2"
```

```
app:layout_constraintStart_toStartOf="parent"
app:layout_constraintTop_toBottomOf="@+id/textView2" />
```

```
<EditText
```

```
    android:id="@+id/n1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="24dp"
    android:layout_marginTop="144dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintStart_toEndOf="@+id/textView2"
    app:layout_constraintTop_toTopOf="parent" />
```

```
<EditText
```

```
    android:id="@+id/n2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginStart="20dp"
    android:layout_marginTop="56dp"
    android:ems="10"
    android:inputType="textPersonName"
    app:layout_constraintStart_toEndOf="@+id/textView3"
    app:layout_constraintTop_toBottomOf="@+id/n1" />
```

```
<TextView
```

```
    android:id="@+id/res"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textSize="20sp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintHorizontal_bias="0.455"
```

```
app:layout_constraintStart_toEndOf="@+id/textView5"  
tools:layout_editor_absoluteY="371dp" />
```

```
<Button
```

```
    android:id="@+id/add"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginStart="88dp"  
    android:text="+"  
    app:layout_constraintStart_toStartOf="parent"  
    tools:layout_editor_absoluteY="469dp" />
```

```
<Button
```

```
    android:id="@+id/sub"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:text="-"  
    app:layout_constraintEnd_toEndOf="parent"  
    app:layout_constraintHorizontal_bias="0.278"  
    app:layout_constraintStart_toEndOf="@+id/add"  
    tools:layout_editor_absoluteY="469dp" />
```

```
<Button
```

```
    android:id="@+id/mul"  
    android:layout_width="wrap_content"  
    android:layout_height="wrap_content"  
    android:layout_marginStart="88dp"  
    android:text="*"  
    app:layout_constraintStart_toStartOf="parent"  
    tools:layout_editor_absoluteY="553dp" />
```

```
<Button
```

```
    android:id="@+id/div"
```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="/"
        app:layout_constraintEnd_toEndOf="parent"
        app:layout_constraintHorizontal_bias="0.278"
        app:layout_constraintStart_toEndOf="@+id/mul"
        tools:layout_editor_absoluteY="553dp" />
    <TextView
        android:id="@+id/textView5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="Result"
        tools:layout_editor_absoluteX="40dp"
        tools:layout_editor_absoluteY="379dp" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

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 {

    TextView res;

```



```

EditText n1,n2;

Button add,sub,mul,div;

Float num1,num2,val;

@Override

protected void onCreate(Bundle savedInstanceState) {

    super.onCreate(savedInstanceState);

    setContentView(R.layout.activity_main);

    n1=(EditText) findViewById(R.id.n1);

    n2=(EditText) findViewById(R.id.n2);

    res=(TextView) findViewById(R.id.t4);

    add=(Button) findViewById(R.id.sub);

    sub=(Button) findViewById(R.id.sub);

    mul=(Button) findViewById(R.id.mul);

    div=(Button) findViewById(R.id.div);

    add.setOnClickListener(new View.OnClickListener() {

        @Override

        public void onClick(View v) {

            num1=Float.parseFloat( n1.getText().toString());

            num2=Float.parseFloat(n2.getText().toString());

            val = num1 + num2;

            res.setText(String.valueOf(val).toString());

        }
    }

```

```

});

sub.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        num1=Float.parseFloat( n1.getText().toString());

        num2=Float.parseFloat(n2.getText().toString());

        val = num1 - num2;

        res.setText(String.valueOf(val).toString());

    }

});

mul.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        num1=Float.parseFloat( n1.getText().toString());

        num2=Float.parseFloat(n2.getText().toString());

        val = num1 * num2;

        res.setText(String.valueOf(val).toString());

    }

});

div.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

```

```
num1=Float.parseFloat( n1.getText().toString());

num2=Float.parseFloat(n2.getText().toString());

if(num2==0)

    res.setText("Denominator cannot be zero");

else

{

    val = num1 / num2;

    res.setText(String.valueOf(val).toString());

}

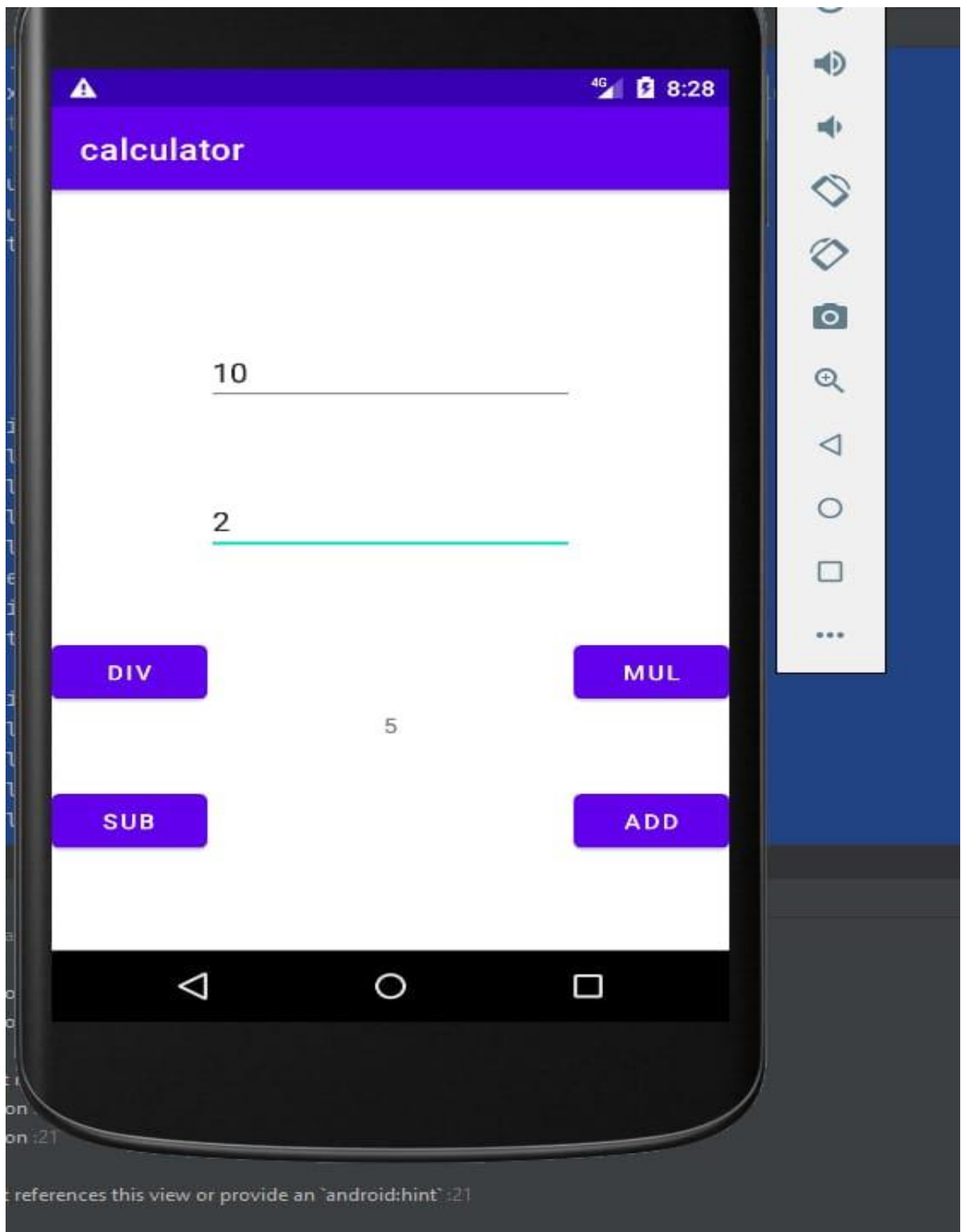
}

});

}

}
```

OUTPUT



3) Design a simple calculator using GridLayout and Cascaded LinearLayout.

Aim:

To design a simple calculator using GridLayout and Cascaded LinearLayout.

Source code:

Xml code

```
<?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">
    <TableLayout
        android:id="@+id/tableLayout"
        android:layout_width="409dp"
        android:layout_height="wrap_content"
        app:layout_constraintBottom_toBottomOf="parent"
        app:layout_constraintTop_toBottomOf="@+id/tv1"
        tools:layout_editor_absoluteX="0dp">
        <TableRow
            android:layout_width="match_parent"
            android:layout_height="match_parent">
            <Button
                android:id="@+id/b1"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
```

```
        android:height="50dp"
        android:text="CLEAR" />
```

```
<Button
```

```
    android:id="@+id/b2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="" />
```

```
<Button
```

```
    android:id="@+id/b3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="/" />
```

```
<Button
```

```
    android:id="@+id/b4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="*" />
```

```
</TableRow>
```

```
<TableRow
```

```
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

```
<Button
```

```
    android:id="@+id/b5"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="7" />
```

```
<Button
```

```
    android:id="@+id/b6"
    android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:text="8" />
```

```
<Button
```

```
    android:id="@+id/b7"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="9" />
```

```
<Button
```

```
    android:id="@+id/b8"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="-" />
```

```
</TableRow>
```

```
<TableRow
```

```
    android:layout_width="match_parent"
    android:layout_height="match_parent">
```

```
<Button
```

```
    android:id="@+id/b9"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="4" />
```

```
<Button
```

```
    android:id="@+id/b10"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="5" />
```

```
<Button
```

```
    android:id="@+id/b11"
    android:layout_width="wrap_content"
```

```
        android:layout_height="wrap_content"
        android:text="6" />
    <Button
        android:id="@+id/b12"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="+" />
</TableRow>
<TableRow
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <Button
        android:id="@+id/b13"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="1" />
    <Button
        android:id="@+id/b14"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="2" />
    <Button
        android:id="@+id/b15"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="3" />
    <Button
        android:id="@+id/b16"
        android:layout_width="wrap_content"
```



```

        android:layout_height="wrap_content"
        android:text="0" />
    </TableRow>
</TableLayout>
<TextView
    android:id="@+id/tv1"
    android:layout_width="0dp"
    android:layout_height="50dp"
    android:textSize="20dp"
    app:layout_constraintEnd_toEndOf="parent"
    app:layout_constraintStart_toStartOf="parent"
    app:layout_constraintTop_toTopOf="parent" />
</androidx.constraintlayout.widget.ConstraintLayout>

```

MainActivity.java

```

package com.example.gridcalculator;

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 {

    Button b1, button Equal, button Div, button Mul, b5, b6, b7, button Sub, b9,
    b10, b11, button Add, b13, b14, b15, b16;

    TextView tv1;

```

```
boolean add,sub,mul,div;
```

```
float n1,n2;
```

```
@Override
```

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

```
    super.onCreate(savedInstanceState);
```

```
    setContentView(R.layout.activity_main);
```

```
    b1 = (Button) findViewById(R.id.b1);
```

```
    buttonEqual = (Button) findViewById(R.id.b2);
```

```
    buttonDiv = (Button) findViewById(R.id.b3);
```

```
    buttonMul = (Button) findViewById(R.id.b4);
```

```
    b5 = (Button) findViewById(R.id.b5);
```

```
    b6 = (Button) findViewById(R.id.b6);
```

```
    b7 = (Button) findViewById(R.id.b7);
```

```
    buttonSub = (Button) findViewById(R.id.b8);
```

```
    b9 = (Button) findViewById(R.id.b9);
```

```
    b10 = (Button) findViewById(R.id.b10);
```

```
    b11 = (Button) findViewById(R.id.b11);
```

```
    buttonAdd = (Button) findViewById(R.id.b12);
```

```
    b13= (Button) findViewById(R.id.b13);
```

```
    b14 = (Button) findViewById(R.id.b14);
```

```
    b15 = (Button) findViewById(R.id.b15);
```

```
    b16 = (Button) findViewById(R.id.b16);
```

```
tv1 = (TextView) findViewById(R.id.tv1);

b13.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        tv1.setText(tv1.getText() + "1");

    }

});

b14.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        tv1.setText(tv1.getText() + "2");

    }

});

b15.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        tv1.setText(tv1.getText() + "3");

    }

});

b9.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {
```

```
        tv1.setText(tv1.getText() + "4");
    }

});

b10.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        tv1.setText(tv1.getText() + "5");

    }

});

b11.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        tv1.setText(tv1.getText() + "6");

    }

});

b5.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        tv1.setText(tv1.getText() + "7");

    }

});
```

```
b6.setOnClickListener(new View.OnClickListener() {  
  
    @Override  
  
    public void onClick(View v) {  
  
        tv1.setText(tv1.getText() + "8");  
  
    }  
  
});
```

```
b7.setOnClickListener(new View.OnClickListener() {  
  
    @Override  
  
    public void onClick(View v) {  
  
        tv1.setText(tv1.getText() + "9");  
  
    }  
  
});
```

```
b16.setOnClickListener(new View.OnClickListener() {  
  
    @Override  
  
    public void onClick(View v) {  
  
        tv1.setText(tv1.getText() + "0");  
  
    }  
  
});
```

```
buttonAdd.setOnClickListener(new View.OnClickListener() {  
  
    @Override  
  
    public void onClick(View v) {
```

```
        if (tv1 == null) {  
            tv1.setText("");  
        } else {  
            n1 = Float.parseFloat(tv1.getText() + "");  
            add = true;  
            tv1.setText(null);  
        }  
    }  
});
```

```
buttonSub.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        n1 = Float.parseFloat(tv1.getText() + "");  
        sub = true;  
        tv1.setText(null);  
    }  
});
```

```
buttonMul.setOnClickListener(new View.OnClickListener() {  
    @Override  
    public void onClick(View v) {  
        n1 = Float.parseFloat(tv1.getText() + "");
```

```

        mul = true;

        tv1.setText(null);

    }

});

buttonDiv.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        n1 = Float.parseFloat(tv1.getText() + "");

        div = true;

        tv1.setText(null);

    }

});

buttonEqual.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        n2 = Float.parseFloat(tv1.getText() + "");

        if (add == true) {

            tv1.setText(n1 + n2 + "");

            add = false;

        }
    }
});

```

```

        if (sub == true) {

            tv1.setText(n1 - n2 + "");

            sub = false;

        }

        if (mul == true) {

            tv1.setText(n1 * n2 + "");

            mul = false;

        }

        if (div == true) {

            tv1.setText(n1 / n2 + "");

            div = false;

        }

    }

});

b1.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        tv1.setText("");

    }

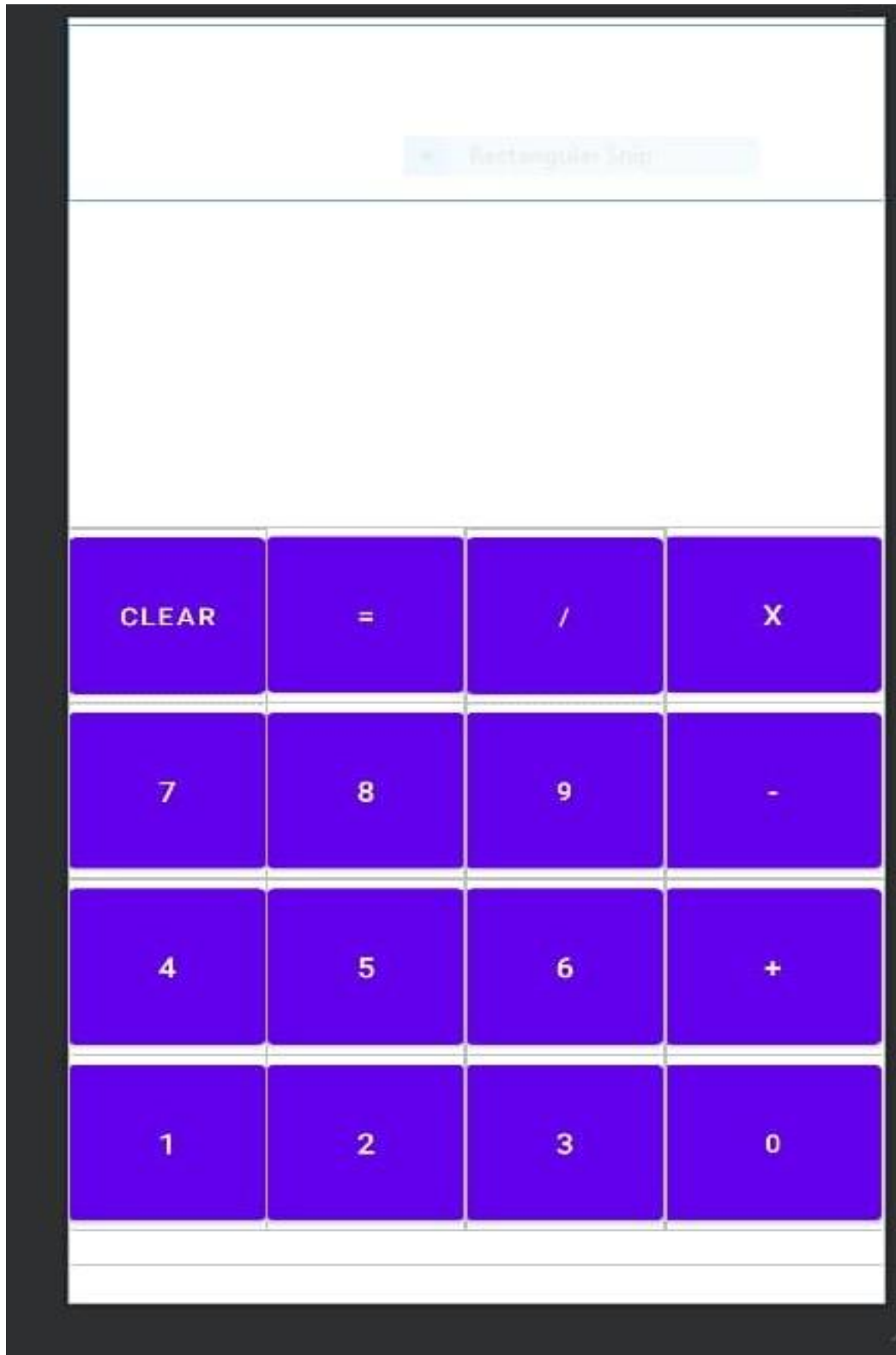
});

```



```
}  
  
}
```

OUTPUT



4) Implement Options Menu to navigate to other activities.

Aim:

To implement Options Menu to navigate to other activities.

Source code:

Xml code (Main menu)

MainActivity.java

```
package com.example.MENU_07DEC21;

import android.content.Intent;
import android.os.Bundle;
import com.google.android.material.snackbar.Snackbar;
import androidx.appcompat.app.AppCompatActivity;
import android.view.View;
import androidx.navigation.NavController;
import androidx.navigation.Navigation;
import androidx.navigation.ui.AppBarConfiguration;
import androidx.navigation.ui.NavigationUI;
import com.example.menudriven.databinding.ActivityMainBinding;
import android.view.Menu;
import android.view.MenuItem;

public class MainActivity extends AppCompatActivity {

    private AppBarConfiguration appBarConfiguration;
    private ActivityMainBinding binding;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        binding = ActivityMainBinding.inflate(getLayoutInflater());
        setContentView(binding.getRoot());
```

```

        setSupportActionBar(binding.toolbar);

        NavController navController = Navigation.findNavController(this,
R.id.nav_host_fragment_content_main);

        appBarConfiguration = new
AppBarConfiguration.Builder(navController.getGraph()).build();

        NavigationUI.setupActionBarWithNavController(this,
navController, appBarConfiguration);

        binding.fab.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View view) {

                Snackbar.make(view, "Replace with your own action",
Snackbar.LENGTH_LONG)

                    .setAction("Action", null).show();

            }

        });
    }

    @Override

    public boolean onCreateOptionsMenu(Menu menu) {

        // Inflate the menu; this adds items to the action bar if it is present.
        getMenuInflater().inflate(R.menu.menu_main, menu);

        return true;

    }

    @Override

    public boolean onOptionsItemSelected(MenuItem item) {

        // Handle action bar item clicks here. The action bar will
        // automatically handle clicks on the Home/Up button, so long
        // as you specify a parent activity in AndroidManifest.xml.

        int id = item.getItemId();

        if(id==R.id.ci)

```

```

{
    Intent i=new Intent(getApplicationContext(),compundinterest.class);
    startActivity(i);
}
else if (id==R.id.si)
{
    Intent i=new Intent(getApplicationContext(),simpleinterest.class);
    startActivity(i);
}

//noinspection SimplifiableIfStatement
if (id == R.id.action_settings) {
    return true;
}
return super.onOptionsItemSelected(item);
}

@Override
public boolean onSupportNavigateUp() {
    NavController navController = Navigation.findNavController(this,
R.id.nav_host_fragment_content_main);
    return NavigationUI.navigateUp(navController,
appBarConfiguration)
        || super.onSupportNavigateUp();
}
}

```

Xml code (simple interest)

```

<?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=".simpleinterest">
<EditText
    android:id="@+id/ed1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:hint="Enter p"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="100dp"
    android:inputType="textPersonName"
    tools:layout_editor_absoluteX="125dp"
    tools:layout_editor_absoluteY="59dp" />
<EditText
    android:id="@+id/ed2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:ems="10"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="150dp"
    android:hint="Enter rate"
    android:inputType="textPersonName"
    tools:layout_editor_absoluteX="125dp"
    tools:layout_editor_absoluteY="131dp" />
<EditText
    android:id="@+id/ed3"
```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:ems="10"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="200dp"
        android:hint="Enter time"
        android:inputType="textPersonName"
        tools:layout_editor_absoluteX="127dp"
        tools:layout_editor_absoluteY="207dp" />
<TextView
    android:id="@+id/t1"
    android:layout_width="106dp"
    android:layout_height="41dp"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="300dp"
    tools:layout_editor_absoluteX="144dp"
    tools:layout_editor_absoluteY="336dp" />
<Button
    android:id="@+id/bt1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="submit"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="400dp"
    tools:layout_editor_absoluteX="143dp"
    tools:layout_editor_absoluteY="454dp" />
</RelativeLayout>

```

Simple.java

```
package com.example. MENU_07DEC21;
```

```

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;
import android.widget.Toast;

public class simpleinterest extends AppCompatActivity {
    EditText p,r,t;
    TextView result;
    Button sub;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_simpleinterest);
        p=(EditText) findViewById(R.id.ed1);
        r=(EditText) findViewById(R.id.ed2);
        t=(EditText) findViewById(R.id.ed3);
        result=(TextView) findViewById(R.id.t1);
        sub=(Button) findViewById(R.id.bt1);
        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                float a,b,c,d;
                String s1=p.getText().toString();
                a=Float.parseFloat(s1);
                String s2=r.getText().toString();
                b=Float.parseFloat(s2);
            }
        });
    }
}

```

```

        String s3=t.getText().toString();
        c=Float.parseFloat(s3);
        d=a*b*c/100;
        result.setText(String.valueOf(d).toString());
    }
});
}
}

```

Xml code (compound interest)

```

<?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=".compundinterest">
    <EditText
        android:id="@+id/es1"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_centerHorizontal="true"
        android:layout_marginTop="100dp"
        android:ems="10"
        android:hint="enter p"
        android:inputType="textPersonName"
        tools:layout_editor_absoluteX="104dp"
        tools:layout_editor_absoluteY="82dp" />

```



```
<EditText
    android:id="@+id/es2"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="150dp"
    android:ems="10"
    android:hint="enter r"
    android:inputType="textPersonName"
    tools:layout_editor_absoluteX="107dp"
    tools:layout_editor_absoluteY="159dp" />
```

```
<EditText
    android:id="@+id/es3"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="200dp"
    android:ems="10"
    android:hint="enter n"
    android:inputType="textPersonName"
    tools:layout_editor_absoluteX="104dp"
    tools:layout_editor_absoluteY="238dp" />
```

```
<EditText
    android:id="@+id/es4"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="250dp"
    android:ems="10"
```

```

        android:hint="enter t"
        android:inputType="textPersonName"
        tools:layout_editor_absoluteX="102dp"
        tools:layout_editor_absoluteY="330dp" />
<TextView
    android:id="@+id/ts1"
    android:layout_width="101dp"
    android:layout_height="30dp"
    android:layout_centerHorizontal="true"
    android:layout_marginTop="300dp"
    tools:layout_editor_absoluteX="144dp"
    tools:layout_editor_absoluteY="475dp" />
<Button
    android:id="@+id/bs1"
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:layout_marginTop="350dp"
    android:layout_centerHorizontal="true"
    android:text="Button"
    tools:layout_editor_absoluteX="140dp"
    tools:layout_editor_absoluteY="539dp" />
</RelativeLayout>

```

Compound.java

```

package com.example. MENU_07DEC21;
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;

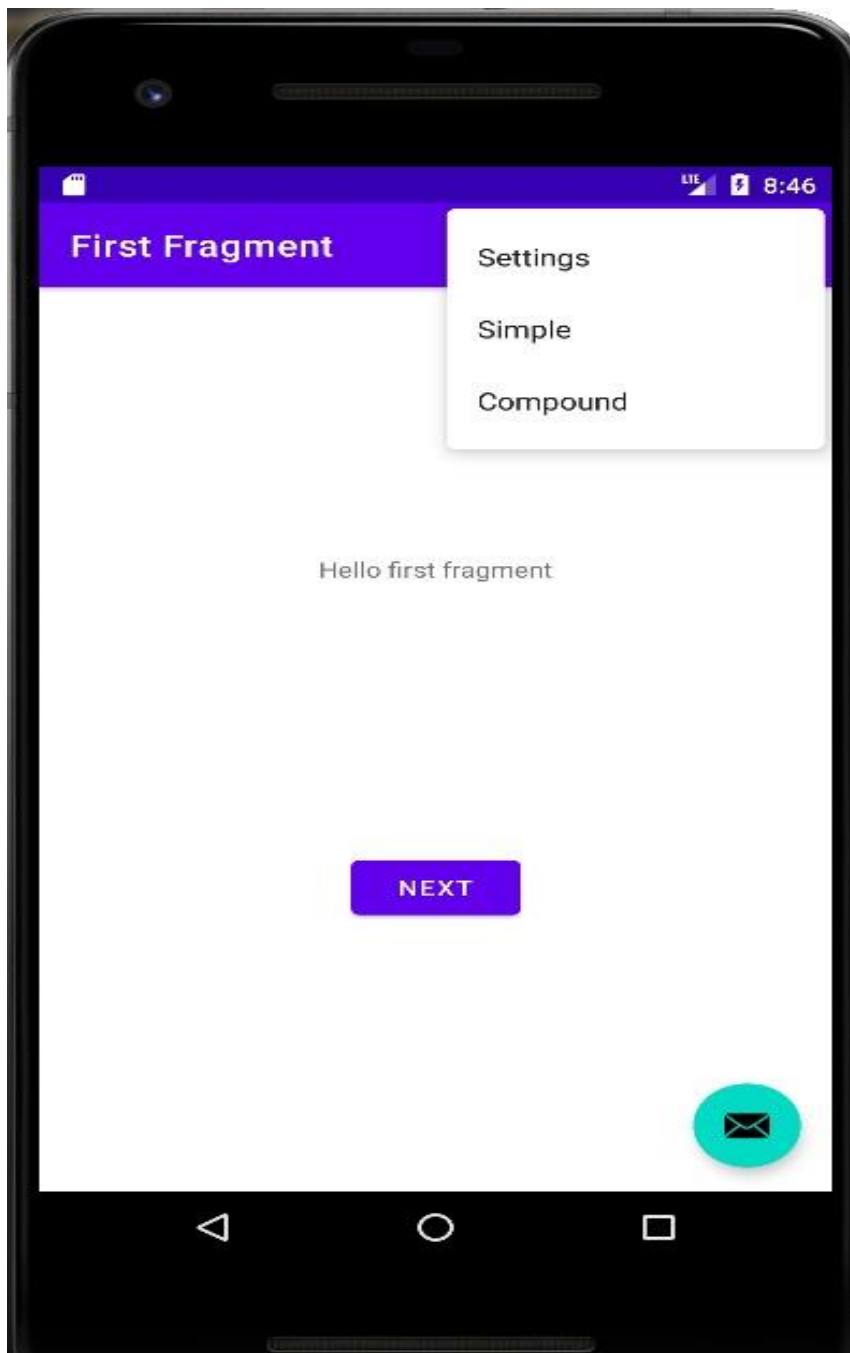
public class compundinterest extends AppCompatActivity {

    EditText p,r,n,t;
    TextView result;
    Button sub;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_compundinterest);
        p=(EditText) findViewById(R.id.es1);
        r=(EditText) findViewById(R.id.es2);
        n=(EditText) findViewById(R.id.es3);
        t=(EditText) findViewById(R.id.es4);
        result=(TextView) findViewById(R.id.ts1);
        sub=(Button) findViewById(R.id.bs1);
        sub.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View v) {
                float a;
                double b;
                float c;
                float d;
                double e;
                String s1=p.getText().toString();
                a=Float.parseFloat(s1);
                String s2=r.getText().toString();
                b=Double.parseDouble(s2);
                String s3=n.getText().toString();
                c=Float.parseFloat(s3);
            }
        });
    }
}

```

```
String s4=t.getText().toString();  
d=Float.parseFloat(s4);  
e= (a * Math.pow( 1 + (b / c), c*d));  
result.setText(String.valueOf(e).toString());  
}  
});}}
```

OUTPUT





8:50

MENU_07DEC21

principle

5000

rate

8

time

2

=

800.0



8:56

MENU_07DEC21

num

1

principle

5000

rate

8

time

1

=

45000.0

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

Aim:

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

Source Code:

Xml code(MainActivity)

```
<menu 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"
    tools:context="com.example.try1.MainActivity" >
    <item android:id="@+id/action_settings"
        android:title="@string/action_settings"
        android:orderInCategory="100"
        app:showAsAction="never" />
    <item
        android:id="@+id/in"
        android:orderInCategory="101"
        android:title="Insert" />
    <item
        android:id="@+id/sel"
        android:orderInCategory="102"
        android:title="Select" />
    <item
        android:id="@+id/up"
        android:orderInCategory="103"
        android:title="Update"/>
    <item
        android:id="@+id/del"
```

```
        android:orderInCategory="104"
        android:title="Delete" />
</menu>
```

MainActivity.java (Menu Page)

```
package com.example.try1;
import android.content.Intent;
import android.os.Bundle;
import com.google.android.material.snackbar.Snackbar;
import androidx.appcompat.app.AppCompatActivity;
import android.view.View;
import androidx.navigation.NavController;
import androidx.navigation.Navigation;
import androidx.navigation.ui.AppBarConfiguration;
import androidx.navigation.ui.NavigationUI;
import com.example.try1.databinding.ActivityMainBinding;
import android.view.Menu;
import android.view.MenuItem;
public class MainActivity extends AppCompatActivity {
    private AppBarConfiguration appBarConfiguration;
    private ActivityMainBinding binding;
```

```
    @Override
```

```
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
```

```
        binding = ActivityMainBinding.inflate(getLayoutInflater());
        setContentView(binding.getRoot());
```

```
        setSupportActionBar(binding.toolbar);
```



```
NavController navController = Navigation.findNavController(this,
R.id.nav_host_fragment_content_main);

appBarConfiguration = new
AppBarConfiguration.Builder(navController.getGraph()).build();

NavigationUI.setupActionBarWithNavController(this,
navController, appBarConfiguration);
```

```
binding.fab.setOnClickListener(new View.OnClickListener() {
    @Override
    public void onClick(View view) {
        Snackbar.make(view, "Replace with your own action",
Snackbar.LENGTH_LONG)
            .setAction("Action", null).show();
    }
});
```

```
@Override
```

```
public boolean onCreateOptionsMenu(Menu menu) {
    // Inflate the menu; this adds items to the action bar if it is present.
    getMenuInflater().inflate(R.menu.menu_main, menu);
    return true;
}
```

```
@Override
```

```
public boolean onOptionsItemSelected(MenuItem item) {
    // Handle action bar item clicks here. The action bar will
    // automatically handle clicks on the Home/Up button, so long
    // as you specify a parent activity in AndroidManifest.xml.
    int id = item.getItemId();
```

```
//noinspection SimplifiableIfStatement
if (id == R.id.action_settings) {
    return true;
}
else if(id == R.id.in)
{
    Intent i = new Intent(MainActivity.this,in.class);
    startActivity(i);
}
else if(id == R.id.sel)
{
    Intent i = new Intent(MainActivity.this,sel.class);
    startActivity(i);
}
else if(id == R.id.up)
{
    Intent i = new Intent(MainActivity.this,up.class);
    startActivity(i);
}
else if(id == R.id.del)
{
    Intent i = new Intent(MainActivity.this,del.class);
    startActivity(i);
}
return super.onOptionsItemSelected(item);
}
```

@Override

```
public boolean onSupportNavigateUp() {
```

```

        NavController navController = Navigation.findNavController(this,
R.id.nav_host_fragment_content_main);

        return NavigationUI.navigateUp(navController,
appBarConfiguration)

            || super.onSupportNavigateUp();
    }
}

```

Xml code (Insert)

```

<?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=".in">

    <TextView

        android:id="@+id/textView"

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:layout_marginLeft="50dp"

        android:layout_marginTop="100dp"

        android:text="First Name"

        tools:layout_editor_absoluteX="61dp"

```

```
tools:layout_editor_absoluteY="166dp" />
```

```
<EditText
```

```
    android:id="@+id/e1"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_marginLeft="150dp"
```

```
    android:layout_marginTop="100dp"
```

```
    android:ems="8" />
```

```
<TextView
```

```
    android:id="@+id/t2"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_marginLeft="50dp"
```

```
    android:layout_marginTop="200dp"
```

```
    android:text="Second Name"
```

```
    tools:layout_editor_absoluteX="61dp"
```

```
    tools:layout_editor_absoluteY="166dp" />
```

```
<EditText
```

```
    android:id="@+id/e2"
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_marginLeft="150dp"
```

android:layout_marginTop="200dp"

android:ems="8" />

<TextView

android:id="@+id/text"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginLeft="50dp"

android:layout_marginTop="300dp"

android:text="Roll no"

tools:layout_editor_absoluteX="61dp"

tools:layout_editor_absoluteY="166dp" />

<EditText

android:id="@+id/e3"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginLeft="150dp"

android:layout_marginTop="300dp"

android:ems="8" />

<Button

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_centerHorizontal="true"

```
        android:layout_marginTop="400dp"

        android:text="Enter"

        android:id="@+id/b1"/>

</RelativeLayout>
```

Insert.java

```
package com.example.try1;

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 in extends AppCompatActivity {

    EditText e1,e2,e3;

    Button b1;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_in);

        e1 = (EditText) findViewById(R.id.e1);

        e2 = (EditText) findViewById(R.id.e2);

        e3 = (EditText) findViewById(R.id.e3);
```

```

b1 = (Button) findViewById(R.id.b1);

final ob db = new ob(this);

b1.setOnClickListener(new View.OnClickListener() {

    @Override

    public void onClick(View v) {

        int roll = Integer.parseInt(e3.getText().toString());

        String s1 = e2.getText().toString();

        String s2 = e1.getText().toString();

        boolean b = db.insert(roll,s1,s2);

        if(b)

        {

            Toast.makeText(getApplicationContext(),"inserted
successfully",Toast.LENGTH_SHORT).show();

        }

    }

});

}

}

```

Xml code (Select)

```

<?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=".sel">
```

```
<Button
```

```
    android:layout_width="wrap_content"
```

```
    android:layout_height="wrap_content"
```

```
    android:layout_centerHorizontal="true"
```

```
    android:layout_centerVertical="true"
```

```
    android:id="@+id/b1"
```

```
    android:text="Select"/>
```

```
</RelativeLayout>
```

Select.java

```
package com.example.try1;
```

```
import androidx.appcompat.app.AlertDialog;
```

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

```
import android.annotation.SuppressLint;
```

```
import android.database.Cursor;
```

```
import android.database.sqlite.SQLiteDatabase;
```

```
import android.os.Bundle;
```

```
import android.view.View;
```

```
import android.widget.Button;
```



```

public class sel extends AppCompatActivity {

    Button b1;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_sel);

        b1 = (Button) findViewById(R.id.b1);

        final ob db = new ob(this);

        b1.setOnClickListener(new View.OnClickListener() {

            @SuppressWarnings("Range")

            @Override

            public void onClick(View v) {

                SQLiteDatabase qw = db.getOB();

                String sql = "select * from stud";

                Cursor c = qw.rawQuery(sql,null);

                String name = null,class1 =null;

                int roll;

                StringBuffer s = new StringBuffer();

                int r;

                s.append("Rollno"+" "+"L_Name"+" "+"F_Name"+"\\n\\n");

                if(c.moveToFirst()){

```

```

do{

    r = c.getInt(c.getColumnIndex("sid"));

    name = c.getString(c.getColumnIndex("sname"));

    class1 = c.getString(c.getColumnIndex("class1"));

    s.append(c.getString(0));

    s.append(" ");

    s.append(c.getString(1));

    s.append(" ");

    s.append(c.getString(2));

    s.append("\n");

}while(c.moveToNext());

}

showmsg("Contents",s.toString());

}

});

}

public void showmsg(String s1,String s2)

{

    AlertDialog.Builder ad = new AlertDialog.Builder(this);

    ad.setCancelable(true);

    ad.setTitle(s1);

    ad.setMessage(s2);

```

```
        ad.show();  
    }  
}
```

Xml code (Update)

```
<?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=".up">  
  
    <TextView  
        android:id="@+id/textView"  
        android:layout_width="wrap_content"  
        android:layout_height="wrap_content"  
        android:layout_marginLeft="50dp"  
        android:layout_marginTop="100dp"  
        android:text="First Name"  
        tools:layout_editor_absoluteX="61dp"  
        tools:layout_editor_absoluteY="166dp" />  
  
    <EditText  
        android:id="@+id/et4"
```

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginLeft="150dp"

android:layout_marginTop="100dp"

android:ems="8" />

<TextView

android:id="@+id/t2"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginLeft="50dp"

android:layout_marginTop="200dp"

android:text="Second Name"

tools:layout_editor_absoluteX="61dp"

tools:layout_editor_absoluteY="166dp" />

<EditText

android:id="@+id/et3"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginLeft="150dp"

android:layout_marginTop="200dp"

android:ems="8" />

<TextView

```
android:id="@+id/text"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginLeft="50dp"

android:layout_marginTop="300dp"

android:text="Roll no"

tools:layout_editor_absoluteX="61dp"

tools:layout_editor_absoluteY="166dp" />
```

<EditText

```
android:id="@+id/et5"

android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_marginLeft="150dp"

android:layout_marginTop="300dp"

android:ems="8" />
```

<Button

```
android:layout_width="wrap_content"

android:layout_height="wrap_content"

android:layout_centerHorizontal="true"

android:layout_marginTop="400dp"

android:text="Enter"

android:id="@+id/b5"/>
```

</RelativeLayout>

Update.java

```
package com.example.try1;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;

import android.view.View;

import android.widget.Button;

import android.widget.EditText;

public class up extends AppCompatActivity {

    Button b5;

    EditText et3,et4,et5;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_up);

        et3 = (EditText) findViewById(R.id.et3);

        et4 = (EditText) findViewById(R.id.et4);

        et5 = (EditText) findViewById(R.id.et5);

        b5 = (Button) findViewById(R.id.b5);

        final ob db = new ob(this);

        b5.setOnClickListener(new View.OnClickListener() {

            @Override
```

```

public void onClick(View v) {

    final String s1 = et3.getText().toString();

    final String s2 = et4.getText().toString();

    final int roll = Integer.parseInt(et5.getText().toString());


    boolean b = db.update(roll,s1,s2);

    }

});

}

}

```

Xml code (Delete)

```

<?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=".del">

    <Button

        android:layout_width="wrap_content"

        android:layout_height="wrap_content"

        android:id="@+id/b8"

```

```
android:layout_marginTop="250dp"
```

```
android:layout_marginLeft="150dp"
```

```
android:text="Delete"/>
```

```
<TextView
```

```
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
```

```
android:text="Enter ID"
```

```
android:layout_marginTop="150dp"
```

```
android:layout_marginLeft="50dp"/>
```

```
<EditText
```

```
android:layout_width="wrap_content"
```

```
android:layout_height="wrap_content"
```

```
android:id="@+id/et5"
```

```
android:layout_marginLeft="200dp"
```

```
android:layout_marginTop="150dp"
```

```
android:ems="8"/>
```

```
</RelativeLayout>
```

Delete.java

```
package com.example.try1;
```

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

```
import android.os.Bundle;
```

```
import android.view.View;
```



```

import android.widget.Button;

import android.widget.EditText;

public class del extends AppCompatActivity {

    Button b8;

    EditText et5;

    @Override

    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);

        setContentView(R.layout.activity_del);

        et5 = (EditText) findViewById(R.id.et5);

        b8 = (Button) findViewById(R.id.b8);

        final ob db = new ob(this);

        b8.setOnClickListener(new View.OnClickListener() {

            @Override

            public void onClick(View v) {

                int s = Integer.parseInt(et5.getText().toString());

                db.delete(s);

            }

        });

    }

}

```

Db.java

```

package com.example.try1;

```

```
import androidx.annotation.Nullable;

import androidx.appcompat.app.AppCompatActivity;

import android.content.ContentValues;

import android.content.Context;

import android.database.sqlite.SQLiteDatabase;

import android.database.sqlite.SQLiteOpenHelper;

import android.os.Bundle;

import android.os.strictmode.SQLiteObjectLeakedViolation;

import com.example.try1.R;

public class ob extends SQLiteOpenHelper {

    private static final int dbver = 1;

    protected static final String dbname = "S3MCA";

    public ob(@Nullable Context context)

    {

        super(context, dbname, null, dbver);

    }

    @Override

    public void onCreate(SQLiteDatabase db)

    {

        String sql = "create table stud(sid integer, "+"sname text, "+"class1 text)";

        db.execSQL(sql);

    }

}
```

@Override

```
public void onUpgrade(SQLiteDatabase db, int oldv, int newv)
```

```
{
```

```
    String sql = "drop table if exists stud";
```

```
    db.execSQL(sql);
```

```
    onCreate(db);
```

```
}
```

```
public boolean insert(int roll, String s1, String s2)
```

```
{
```

```
    ContentValues cv = new ContentValues();
```

```
    cv.put("sid",roll);
```

```
    cv.put("sname",s1);
```

```
    cv.put("class1",s2);
```

```
    SQLiteDatabase db = this.getWritableDatabase();
```

```
    boolean b = db.insert("stud",null,cv)>0;
```

```
    db.close();
```

```
    return b;
```

```
}
```

```
public boolean update(int roll, String s1, String s2)
```

```
{
```

```
    ContentValues cv = new ContentValues();
```

```
    cv.put("sid",roll);
```

```

        cv.put("sname",s1);

        cv.put("class1",s2);

        SQLiteDatabase db = this.getWritableDatabase();

        boolean b = db.insert("stud",null,cv)>0;

        db.close();

        return b;
    }

    public void delete(int roll)
    {
        SQLiteDatabase db = this.getWritableDatabase();

        return db.delete("stud","sid=?",new String[]{roll});
    }

    public SQLiteDatabase getOB()
    {
        return this.getReadableDatabase();
    };

    public SQLiteDatabase getWOB()
    {
        return this.getWritableDatabase(); };}

```

OUTPUT

