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1NT21IS400

Calculator Program

MainActivity.java

```
package com.example.calculator_1nt21is400;

import androidx.appcompat.app.AppCompatActivity;

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

public class MainActivity extends AppCompatActivity {
    EditText ed1; // The input and result display
    boolean isNewOp = true; // A flag to track if a new operation should
start
    String oldNumber = ""; // To store the previous number
    String op = "";

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        ed1 = findViewById(R.id.editTextTextPersonName);
    }

            public void numberEvent(View view) {
                if (isNewOp) {
                    ed1.setText("");
                    isNewOp = false;
                }

                String number = ed1.getText().toString();

                switch (view.getId()) {
                    case R.id.button0:
                        number += "0";
                        break;
                    case R.id.button1:
                        number += "1";
                        break;
                    case R.id.button2:
                        number += "2";
                        break;
                    case R.id.button3:
                        number += "3";
                        break;
                    case R.id.button4:
                        number += "4";
                        break;
                    case R.id.button5:
```

```
                    number += "5";
                    break;
                case R.id.button6:
                    number += "6";
                    break;
                case R.id.button7:
                    number += "7";
                    break;
                case R.id.button8:
                    number += "8";
                    break;
                case R.id.button9:
                    number += "9";
                    break;
                case R.id.button00:
                    number += "00";
                    break;
            }

            ed1.setText(number);
        }


        public void operatorEvent(View view) {
            isNewOp = true;
            oldNumber = ed1.getText().toString();

            switch (view.getId()) {
                case R.id.buttonadd:
                    op = "+";
                    break;
                case R.id.buttonsub:
                    op = "-";
                    break;
                case R.id.buttonmul:
                    op = "*";
                    break;
                case R.id.buttondiv:
                    op = "/";
                    break;
                // Add cases for other operators if needed
            }
        }


        public void equalEvent(View view) {
            String newNumber = ed1.getText().toString();
            double result = 0.0;
            switch (op) {
                case "+":
                    result = Double.parseDouble(oldNumber) +
Double.parseDouble(newNumber);
                    break;
                case "-":
```

```
                        result = Double.parseDouble(oldNumber) -
Double.parseDouble(newNumber);
                        break;
                    case "*":
                        result = Double.parseDouble(oldNumber) *
Double.parseDouble(newNumber);
                        break;
                    case "/":
                        result = Double.parseDouble(oldNumber) /
Double.parseDouble(newNumber);
                        break;
                }
                ed1.setText(String.valueOf(result));
            }

            public void acEvent(View view) {
                ed1.setText("0");
                isNewOp = true;
            }

            public void percentEvent(View view) {
                double no = Double.parseDouble(ed1.getText().toString()) /
100;
                ed1.setText(String.valueOf(no));
                isNewOp = true;
            }
        }
```

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"
    android:background="@color/black"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <EditText
        android:id="@+id/editTextTextPersonName"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:ems="10"
        android:gravity="end"
        android:inputType="textPersonName"
        android:text="0"
        android:textColor="#FFFFFF"
        android:textSize="50pt" />

    <TableLayout
```

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

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

    <Button
        android:id="@+id/buttonc"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:layout_margin="8dp"
        android:background="@drawable/button_1"
        android:text="C"
        app:backgroundTint="@color/button1"
        android:textSize="40sp"
        android:onClick="acEvent"/>

    <Button
        android:id="@+id/buttonper"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:layout_margin="8dp"
        android:background="@drawable/button_1"
        android:text="%"
        app:backgroundTint="@color/button1"
        android:textSize="40sp"
        android:onClick="percentEvent"/>

    <Button
        android:id="@+id/buttonac"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:layout_margin="8dp"
        android:background="@drawable/button_1"
        android:text="AC"
        app:backgroundTint="@color/button1"
        android:textSize="40sp"
        android:onClick="acEvent"/>

    <Button
        android:id="@+id/buttondiv"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:layout_margin="8dp"
        android:background="@drawable/button_1"
        android:text="/"
        app:backgroundTint="@color/button1"
        android:textSize="40sp"
        android:onClick="operatorEvent"/>

</TableRow>

<TableRow
```

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

    <Button
        android:id="@+id/button7"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:layout_margin="8dp"
        android:background="@drawable/button_2"
        android:text="7"
        app:backgroundTint="@color/grey"
        android:textSize="40sp"
        android:onClick="numberEvent"/>

    <Button
        android:id="@+id/button8"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:layout_margin="8dp"
        android:background="@drawable/button_2"
        android:text="8"
        app:backgroundTint="@color/grey"
        android:textSize="40sp"
        android:onClick="numberEvent"/>

    <Button
        android:id="@+id/button9"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:layout_margin="8dp"
        android:background="@drawable/button_2"
        android:text="9"
        app:backgroundTint="@color/grey"
        android:textSize="40sp"
        android:onClick="numberEvent"/>

    <Button
        android:id="@+id/buttonmul"
        android:layout_width="wrap_content"
        android:layout_height="90dp"
        android:layout_margin="8dp"
        android:background="@drawable/button_1"
        android:text="X"
        app:backgroundTint="@color/button1"
        android:textSize="40sp"
        android:onClick="operatorEvent"/>

</TableRow>

<TableRow
    android:layout_width="match_parent"
    android:layout_height="match_parent">
    <Button
        android:id="@+id/button4"
```

```
            android:layout_width="wrap_content"
            android:layout_height="90dp"
            android:layout_margin="8dp"
            android:background="@drawable/button_2"
            android:text="4"
            app:backgroundTint="@color/grey"
            android:textSize="40sp"
            android:onClick="numberEvent"/>

        <Button
            android:id="@+id/button5"
            android:layout_width="wrap_content"
            android:layout_height="90dp"
            android:layout_margin="8dp"
            android:background="@drawable/button_2"
            android:text="5"
            app:backgroundTint="@color/grey"
            android:textSize="40sp"
            android:onClick="numberEvent"/>

        <Button
            android:id="@+id/button6"
            android:layout_width="wrap_content"
            android:layout_height="90dp"
            android:layout_margin="8dp"
            android:background="@drawable/button_2"
            android:text="6"
            app:backgroundTint="@color/grey"
            android:textSize="40sp"
            android:onClick="numberEvent"/>

        <Button
            android:id="@+id/buttonsub"
            android:layout_width="wrap_content"
            android:layout_height="90dp"
            android:layout_margin="8dp"
            android:background="@drawable/button_1"
            android:text="-"
            app:backgroundTint="@color/button1"
            android:textSize="40sp"
            android:onClick="operatorEvent"/>

    </TableRow>

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

        <Button
            android:id="@+id/button1"
            android:layout_width="wrap_content"
            android:layout_height="90dp"
            android:layout_margin="8dp"
            android:background="@drawable/button_2"
```

```
            android:text="1"
            app:backgroundTint="@color/grey"
            android:textSize="40sp"
            android:onClick="numberEvent"/>

        <Button
            android:id="@+id/button2"
            android:layout_width="wrap_content"
            android:layout_height="90dp"
            android:layout_margin="8dp"
            android:background="@drawable/button_2"
            android:text="2"
            app:backgroundTint="@color/grey"
            android:textSize="40sp"
            android:onClick="numberEvent"/>

        <Button
            android:id="@+id/button3"
            android:layout_width="wrap_content"
            android:layout_height="90dp"
            android:layout_margin="8dp"
            android:background="@drawable/button_2"
            android:text="3"
            app:backgroundTint="@color/grey"
            android:textSize="40sp"
            android:onClick="numberEvent"/>

        <Button
            android:id="@+id/buttonadd"
            android:layout_width="wrap_content"
            android:layout_height="90dp"
            android:layout_margin="8dp"
            android:background="@drawable/button_1"
            android:text="+"
            app:backgroundTint="@color/button1"
            android:textSize="40sp"
            android:onClick="operatorEvent"/>

    </TableRow>
    <TableRow
        android:layout_width="match_parent"
        android:layout_height="match_parent" >

        <Button
            android:id="@+id/button00"
            android:layout_width="wrap_content"
            android:layout_height="90dp"
            android:layout_margin="8dp"
            android:background="@drawable/button_2"
            android:text="00"
            app:backgroundTint="@color/grey"
            android:textSize="40sp"
            android:onClick="numberEvent"/>
```

```
            <Button
                android:id="@+id/button0"
                android:layout_width="wrap_content"
                android:layout_height="90dp"
                android:layout_margin="8dp"
                android:background="@drawable/button_2"
                android:text="0"
                app:backgroundTint="@color/grey"
                android:textSize="40sp"
                android:onClick="numberEvent"/>

            <Button
                android:id="@+id/buttondot"
                android:layout_width="wrap_content"
                android:layout_height="90dp"
                android:layout_margin="8dp"
                android:background="@drawable/button_2"
                android:text="."
                app:backgroundTint="@color/grey"
                android:textSize="40sp"
                android:onClick="numberEvent"/>

            <Button
                android:id="@+id/buttonsum"
                android:layout_width="wrap_content"
                android:layout_height="90dp"
                android:layout_margin="8dp"
                android:background="@drawable/button_3"
                android:text="="
                app:backgroundTint="@color/button3"
                android:textSize="40sp"
                android:onClick="equalEvent"/>
        </TableRow>
    </TableLayout>
</LinearLayout>
```

Colors.xml

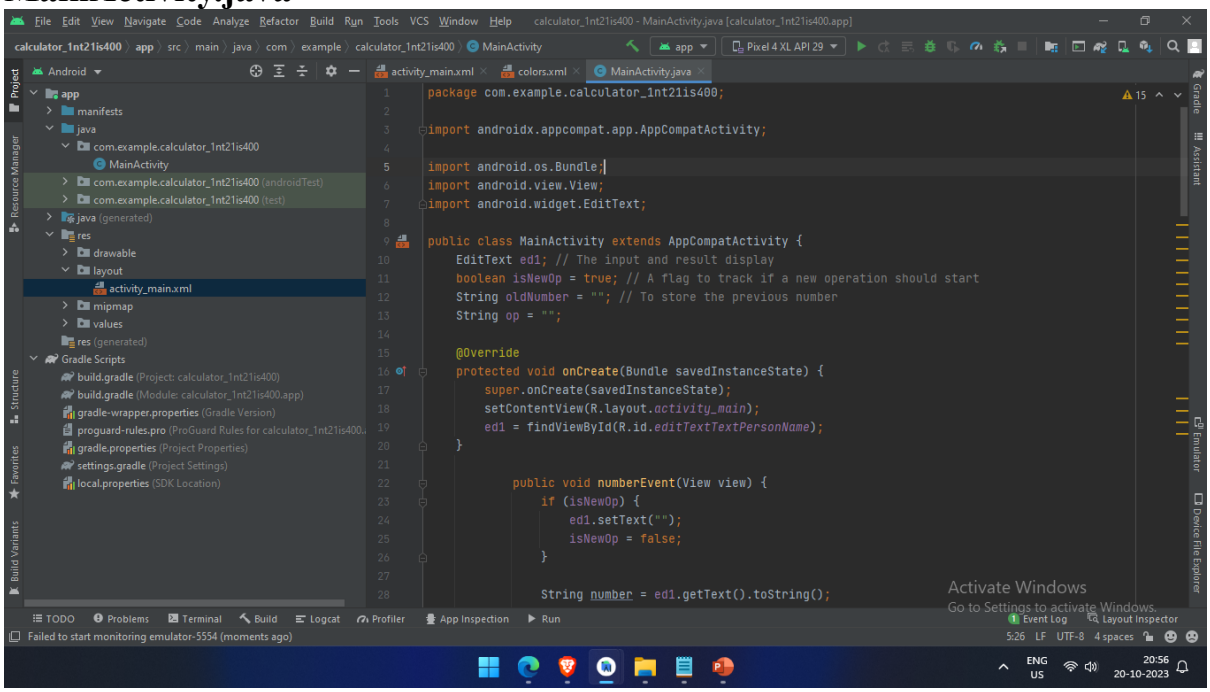
```
<?xml version="1.0" encoding="utf-8"?>
<resources>
    <color name="purple_200">#FFBB86FC</color>
    <color name="purple_500">#FF6200EE</color>
    <color name="purple_700">#FF3700B3</color>
    <color name="teal_200">#FF03DAC5</color>
    <color name="teal_700">#FF018786</color>
    <color name="black">#FF000000</color>
    <color name="white">#FFFFFFFF</color>
    <color name="grey">#808080</color>
    <color name="back">#010001</color>
    <color name="button1">#3B3B3B</color>
    <color name="button2">#323333</color>
    <color name="button3">#FF6543</color>
</resources>
```

Drawable>button.xml

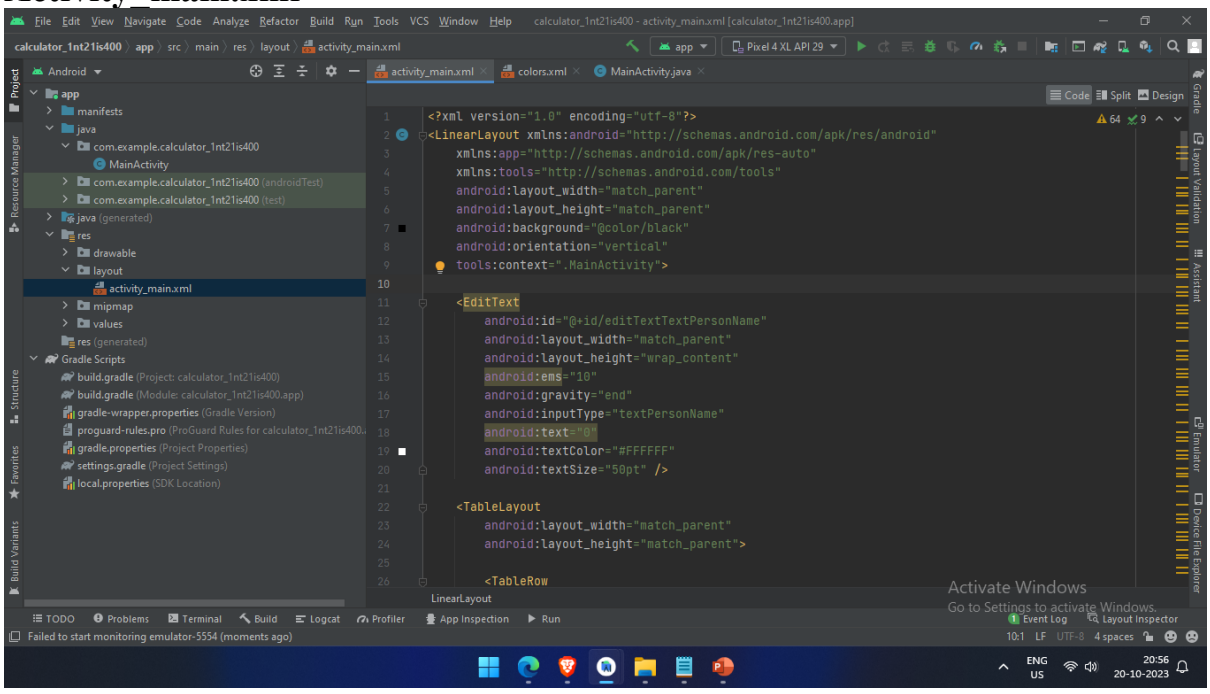
```
<?xml version="1.0" encoding="utf-8"?>
<shape xmlns:android="http://schemas.android.com/apk/res/android">
    <solid android:color="#3B3B3B" /> <!-- Background color -->
    <corners android:radius="100dp" /> <!-- Radius to make it circular -->
</shape>
```

Screenshots:

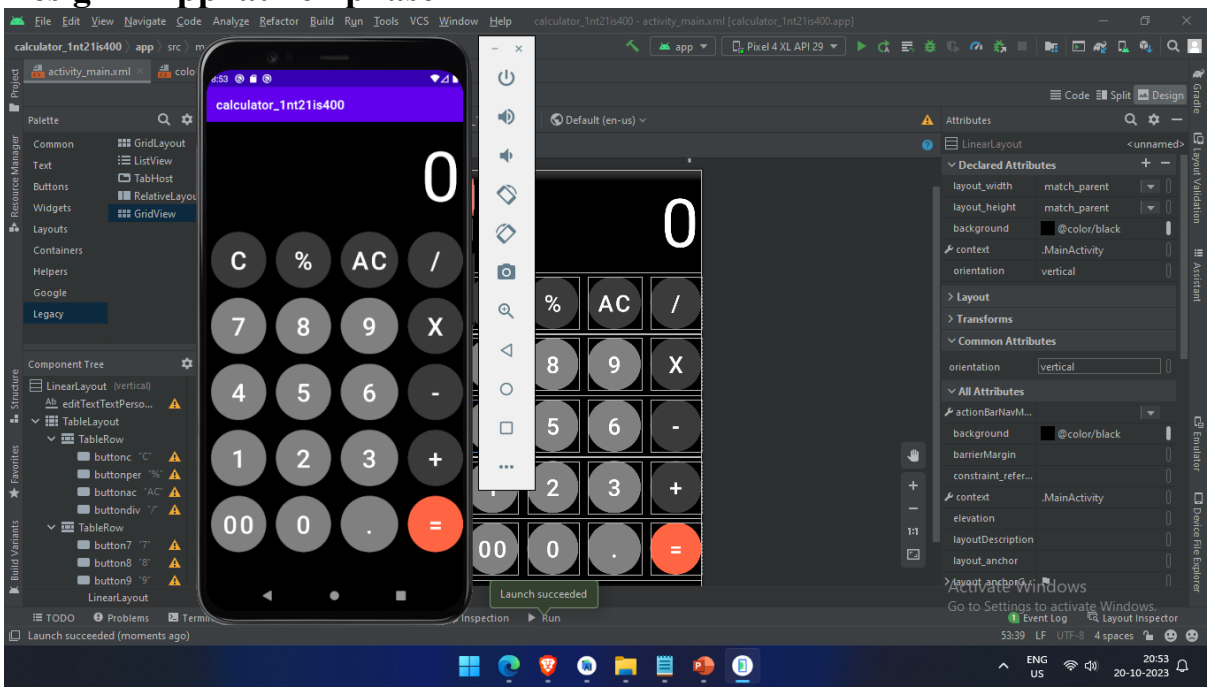
MainActivity.java



Activity_main.xml

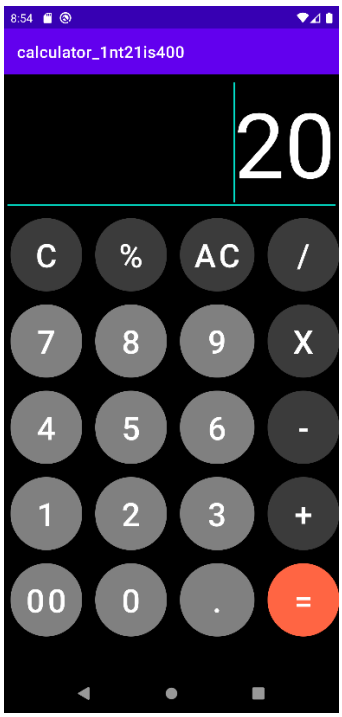


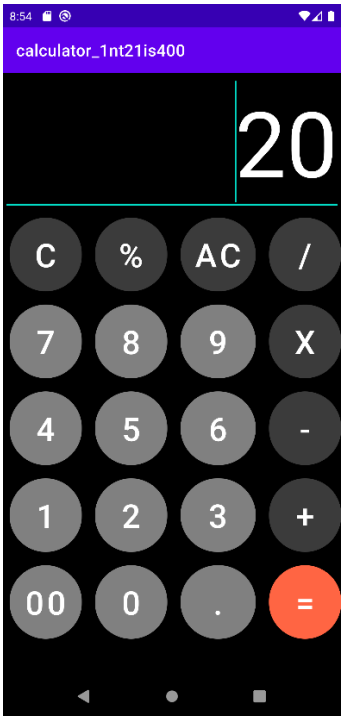
Design + App launch phase

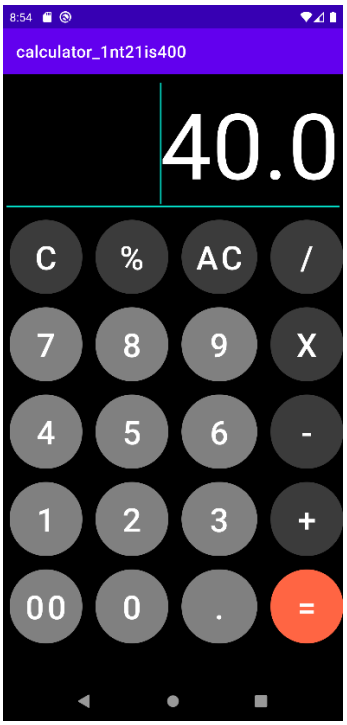


Operations:

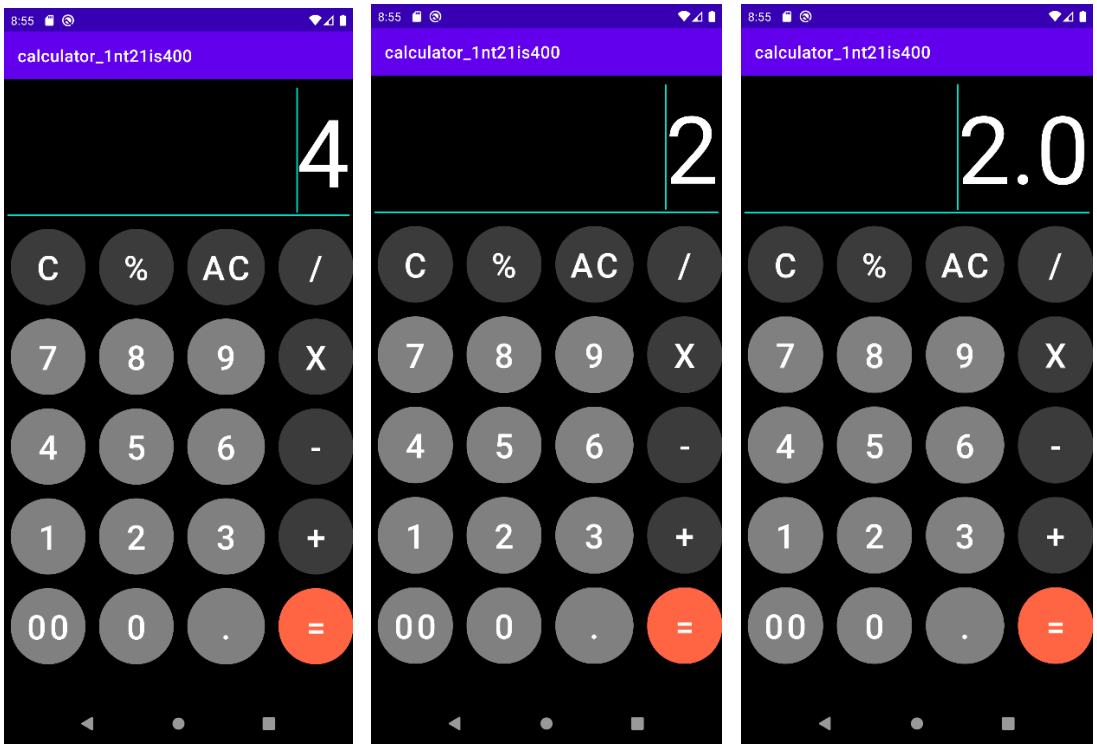
1. 20+20=40



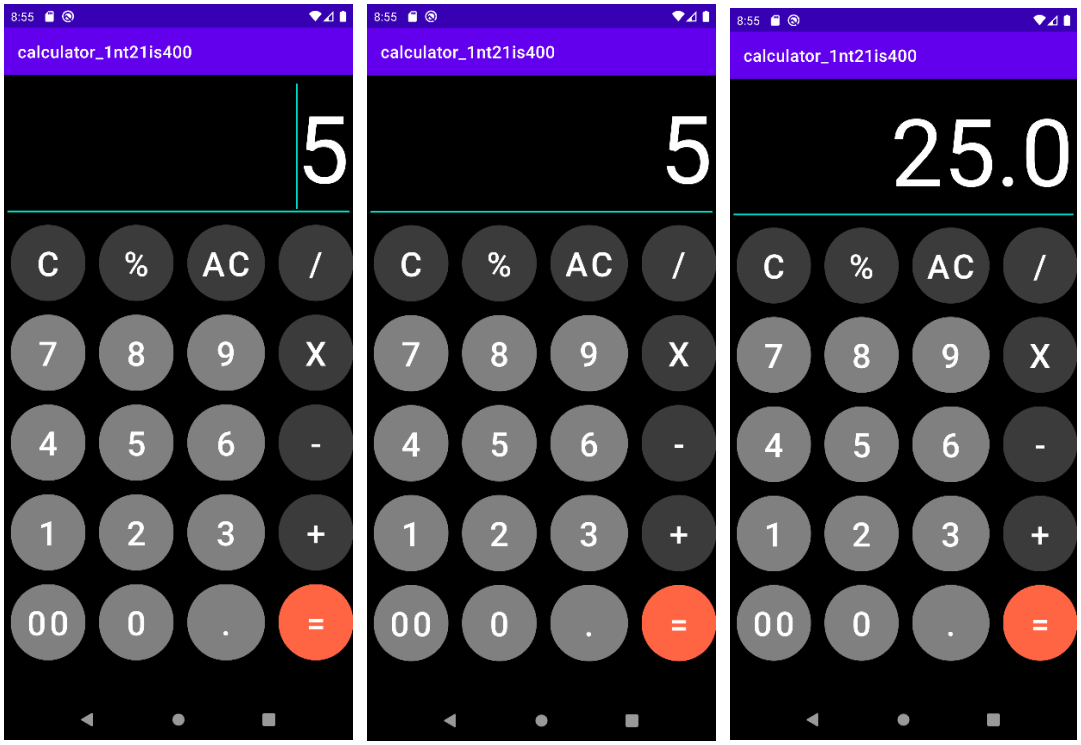




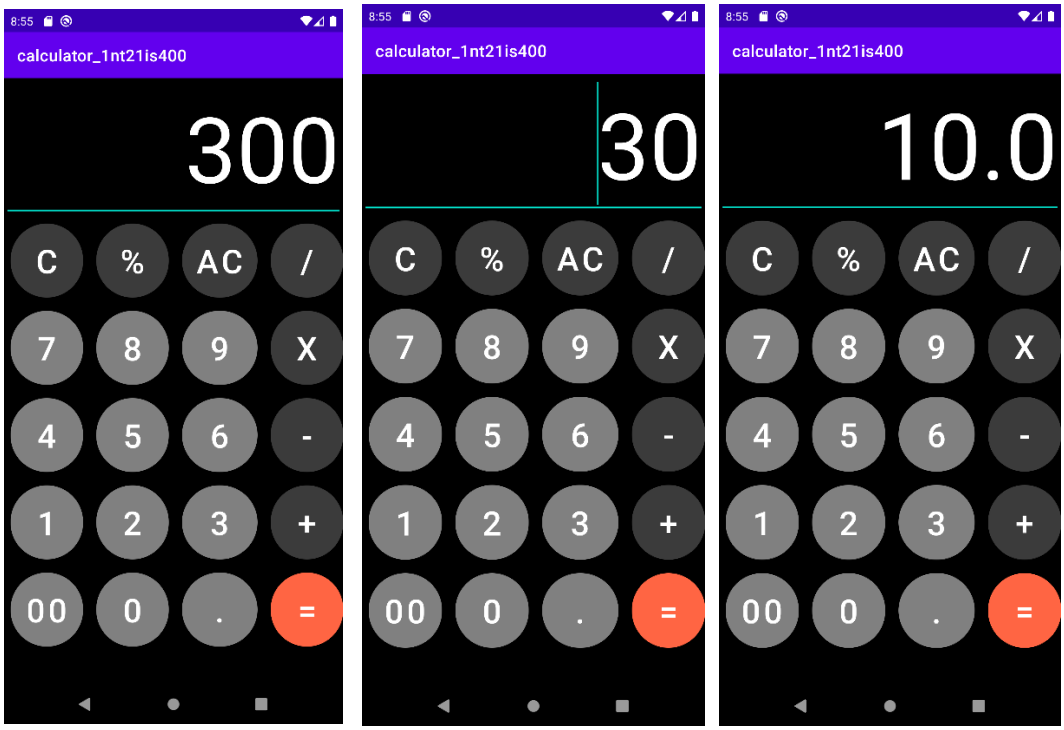
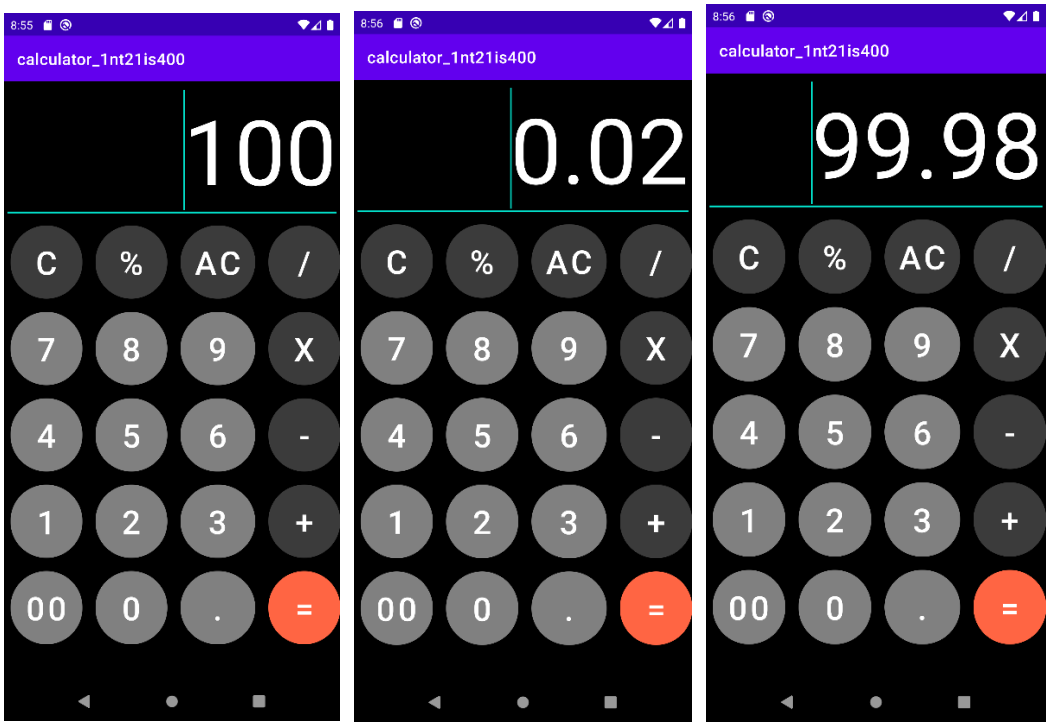
2. 4-2=2


8:55
calculator_1nt21is400
4
2
2.0
C % AC /
7 8 9 X
4 5 6 -
1 2 3 +
00 0 . =

3. 5*5=25


8:55
calculator_1nt21is400
5
5
25.0
C % AC /
7 8 9 X
4 5 6 -
1 2 3 +
00 0 . =

4. **300/30=10**



5. **100-0.02%=99.98**