

스마트폰 프로그래밍

Assign #10

(제목 : 간단 계산기, 이미지 보기 수정)

학번 : 2016305078

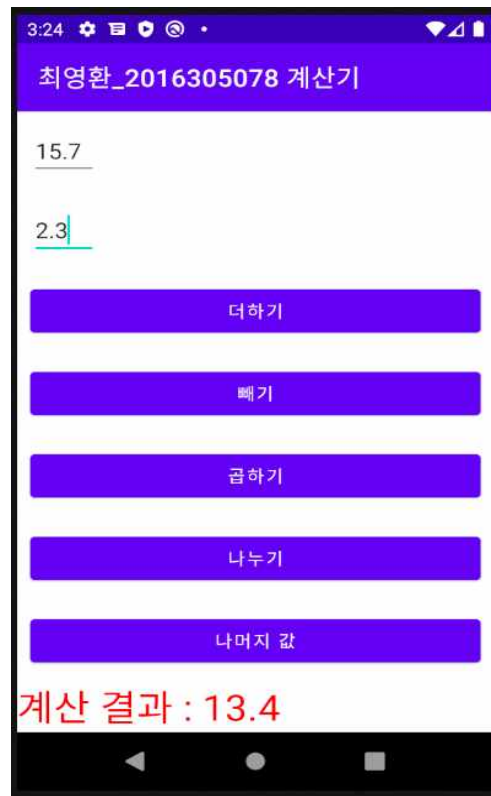
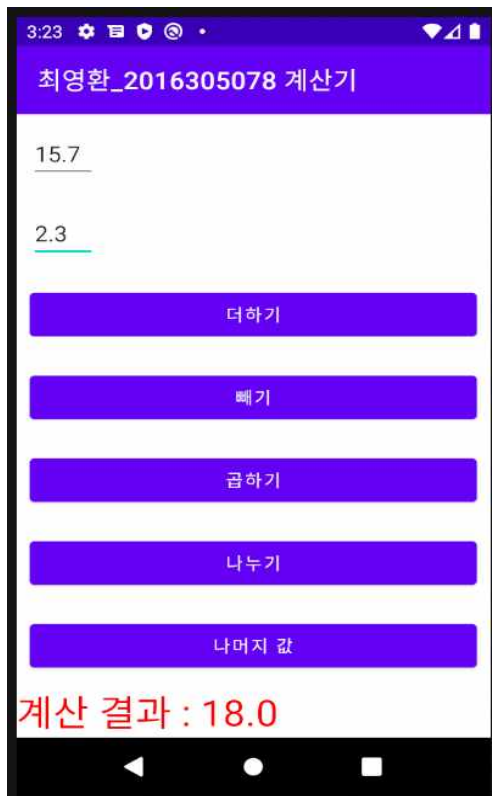
성명 : 최 영 환

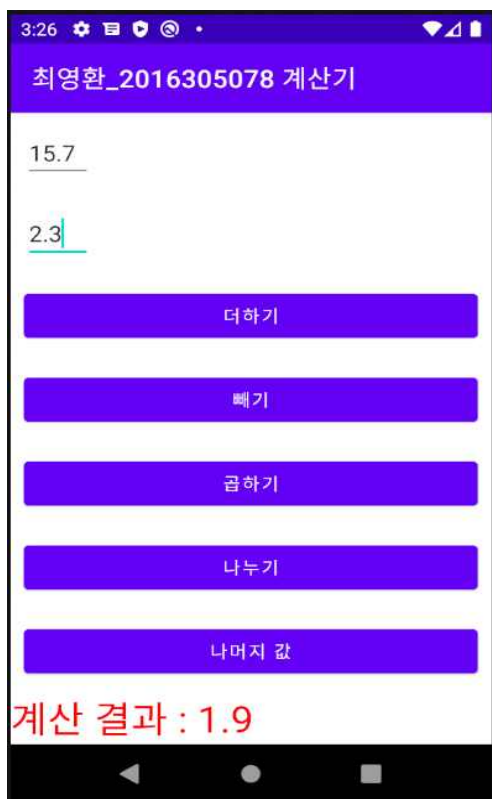
제출일자 : 2021.12.03

본인은 타인이나 다른 매체를 도용하지 않았음을 확인합니다

<본인사인 : 최영환>

<실행화면>





<MainActivity.java>

```
1 package com.example.simplecalculator
2
3 import ...
4
5
6
7
8
9
10
11 class MainActivity : AppCompatActivity() {
12     lateinit var edit1: EditText; lateinit var edit2: EditText
13     lateinit var btnAdd: Button;   lateinit var btnSub: Button;
14     lateinit var btnMul: Button;   lateinit var btnDiv: Button
15     lateinit var btnRem: Button
16     lateinit var textResult: TextView
17     lateinit var num1: String;     lateinit var num2: String
18     var result: Float? = null
19
20 override fun onCreate(savedInstanceState: Bundle?) {
21     super.onCreate(savedInstanceState)
22     setContentView(R.layout.activity_main)
23
24     edit1 = findViewById<EditText>(R.id.Edit1)
25     edit2 = findViewById<EditText>(R.id.Edit2)
26     btnAdd = findViewById<Button>(R.id.BtnAdd)
27     btnSub = findViewById<Button>(R.id.BtnSub)
28     btnMul = findViewById<Button>(R.id.BtnMul)
29     btnDiv = findViewById<Button>(R.id.BtnDiv)
30     btnRem = findViewById<Button>(R.id.BtnRem)
31
32     textResult = findViewById<TextView>(R.id.TextResult)
33
34     btnAdd.setOnTouchListener { view, motionEvent ->
35         num1 = edit1.text.toString()
36         num2 = edit2.text.toString()
37         if (num1.length == 0 || num2.length == 0){
38             Toast.makeText(context, this, text "값을 입력하세요!", Toast.LENGTH_SHORT).show()
39         }
40         else{
41             result = num1.toFloat() + num2.toFloat()
42             textResult.text = "계산 결과 : " + String.format("%.1f", result)
43         }
44         false *setOnTouchListener
45     }
46
47     btnSub.setOnTouchListener { view, motionEvent ->
48         num1 = edit1.text.toString()
49         num2 = edit2.text.toString()
50         if (num1.length == 0 || num2.length == 0){
51             Toast.makeText(context, this, text "값을 입력하세요!", Toast.LENGTH_SHORT).show()
52         }
53         else{
54             result = num1.toFloat() - num2.toFloat()
55             textResult.text = "계산 결과 : " + String.format("%.1f", result)
56         }
57         false *setOnTouchListener
58     }
59
60     btnMul.setOnTouchListener { view, motionEvent ->
61         num1 = edit1.text.toString()
62         num2 = edit2.text.toString()
63         if (num1.length == 0 || num2.length == 0){
64             Toast.makeText(context, this, text "값을 입력하세요!", Toast.LENGTH_SHORT).show()
65         }
66         else {
67             result = num1.toFloat() * num2.toFloat()
68             textResult.text = "계산 결과 : " + String.format("%.1f", result)
69         }
70         false *setOnTouchListener
71     }
72
73 }
```

```

72 btnDiv.setOnTouchListener { view, motionEvent ->
73     num1 = edit1.text.toString()
74     num2 = edit2.text.toString()
75     if (num1.length == 0 || num2.length == 0) {
76         Toast.makeText(context this, text "값을 입력하세요!", Toast.LENGTH_SHORT).show()
77     }
78     else {
79         result = num1.toFloat() / num2.toFloat()
80         if (num1.toFloat() != 0.0f && num2.toFloat() != 0.0f) {
81             textResult.text = "계산 결과 : " + String.format("%.1f", result)
82         }
83         else {
84             Toast.makeText(context this@MainActivity, text "오류 발생! 0을 나눌 수 없습니다!", Toast.LENGTH_SHORT).show()
85             textResult.text = "계산 결과 : "
86         }
87     }
88     false *setOnTouchListener
89 }
90
91 btnRem.setOnTouchListener { view, motionEvent ->
92     num1 = edit1.text.toString()
93     num2 = edit2.text.toString()
94     if (num1.length == 0 || num2.length == 0) {
95         Toast.makeText(context this, text "값을 입력하세요!", Toast.LENGTH_SHORT).show()
96     }
97     else {
98         result = num1.toFloat() % num2.toFloat()
99         if (num1.toFloat() != 0.0f && num2.toFloat() != 0.0f) {
100             textResult.text = "계산 결과 : " + String.format("%.1f", result)
101         }
102         else {
103             Toast.makeText(context this@MainActivity, text "오류 발생! 0을 나눌 수 없습니다!", Toast.LENGTH_SHORT).show()
104             textResult.text = "계산 결과 : "
105         }
106     }
107     false *setOnTouchListener
108 }
109 }
110

```

```

package com.example.simplecalculator
import androidx.appcompat.app.AppCompatActivity
import android.os.Bundle
import android.widget.Button
import android.widget.EditText
import android.widget.TextView
import android.widget.Toast
class MainActivity : AppCompatActivity() {
    lateinit var edit1: EditText; lateinit var edit2: EditText
    lateinit var btnAdd: Button; lateinit var btnSub: Button;
    lateinit var btnMul: Button; lateinit var btnDiv: Button
    lateinit var btnRem: Button
    lateinit var textResult: TextView
    lateinit var num1: String; lateinit var num2: String
    var result: Float? = null
    override fun onCreate(savedInstanceState: Bundle?) {
        super.onCreate(savedInstanceState)
        setContentView(R.layout.activity_main)
        edit1 = findViewById <EditText >(R.id.Edit1)
        edit2 = findViewById <EditText >(R.id.Edit2)
        btnAdd = findViewById <Button >(R.id.BtnAdd)
        btnSub = findViewById <Button >(R.id.BtnSub)

```

```

btnMul = findViewById <Button >(R.id.BtnMul)
btnDiv = findViewById <Button >(R.id.BtnDiv)
btnRem = findViewById <Button >(R.id.BtnRem)
textResult = findViewById <TextView >(R.id.TextResult)
btnAdd.setOnTouchListener { view, motionEvent ->
    num1 = edit1.text.toString()
    num2 = edit2.text.toString()
    if (num1.length == 0 || num2.length == 0){
        Toast.makeText(this, "값을 입력하세요!", Toast.LENGTH_SHORT).show()
    }
    else{
        result = num1.toFloat() + num2.toFloat()
        textResult.text ="계산 결과 : "+String.format("%.1f", result)
    }
    false
}
btnSub.setOnTouchListener { view, motionEvent ->
    num1 = edit1.text.toString()
    num2 = edit2.text.toString()
    if (num1.length == 0 || num2.length == 0){
        Toast.makeText(this, "값을 입력하세요!", Toast.LENGTH_SHORT).show()
    }
    else{
        result = num1.toFloat() - num2.toFloat()
        textResult.text ="계산 결과 : "+String.format("%.1f", result)
    }
    false
}
btnMul.setOnTouchListener { view, motionEvent ->
    num1 = edit1.text.toString()
    num2 = edit2.text.toString()
    if (num1.length == 0 || num2.length == 0){
        Toast.makeText(this, "값을 입력하세요!", Toast.LENGTH_SHORT).show()
    }
    else {
        result = num1.toFloat() * num2.toFloat()
        textResult.text ="계산 결과 : "+String.format("%.1f", result)
    }
    false
}
btnDiv.setOnTouchListener { view, motionEvent ->

```

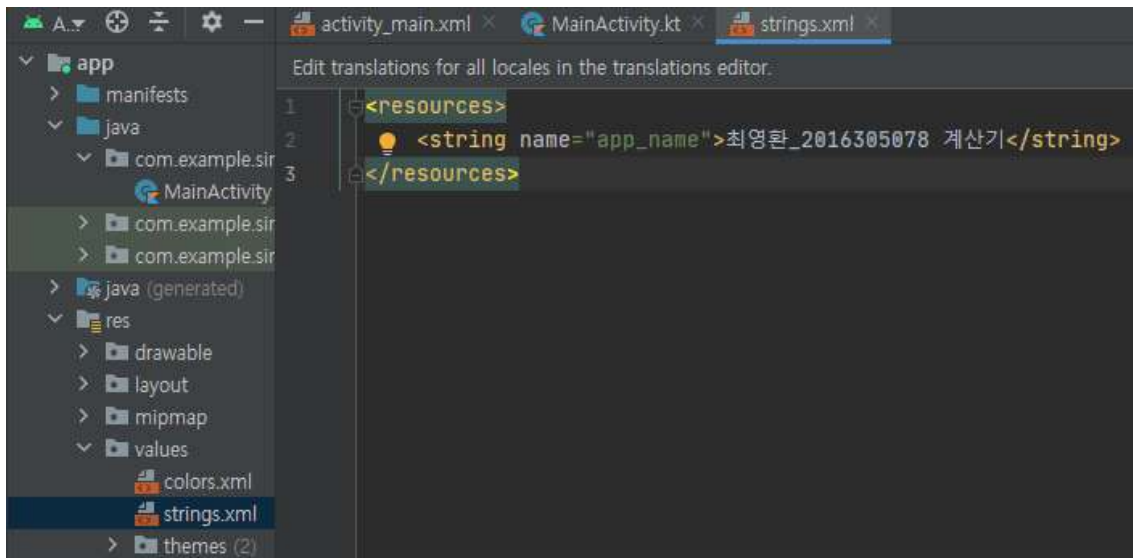
```

num1 = edit1.text.toString()
num2 = edit2.text.toString()
if (num1.length == 0 || num2.length == 0){
    Toast.makeText(this, "값을 입력하세요!", Toast.LENGTH_SHORT).show()
}
else {
    result = num1.toFloat() / num2.toFloat()
    if(num1.toFloat() !=0.0f && num2.toFloat() !=0.0f) {
        textResult.text ="계산 결과 : "+String.format("%.1f", result)
    }
    else{
        Toast.makeText(this@MainActivity, "오류 발생! 0을 나눌 수 없습니다!", Toast.LENGTH_SHORT).show()
        textResult.text ="계산 결과 : "
    }
}
false
}

btnRem.setOnTouchListener { view, motionEvent ->
    num1 = edit1.text.toString()
    num2 = edit2.text.toString()
    if (num1.length == 0 || num2.length == 0){
        Toast.makeText(this, "값을 입력하세요!", Toast.LENGTH_SHORT).show()
    }
    else {
        result = num1.toFloat() % num2.toFloat()
        if(num1.toFloat() !=0.0f && num2.toFloat() !=0.0f) {
            textResult.text ="계산 결과 : "+String.format("%.1f", result)
        }
        else{
            Toast.makeText(this@MainActivity, "오류 발생! 0을 나눌 수 없습니다!", Toast.LENGTH_SHORT).show()
            textResult.text ="계산 결과 : "
        }
    }
    false
}
}
}

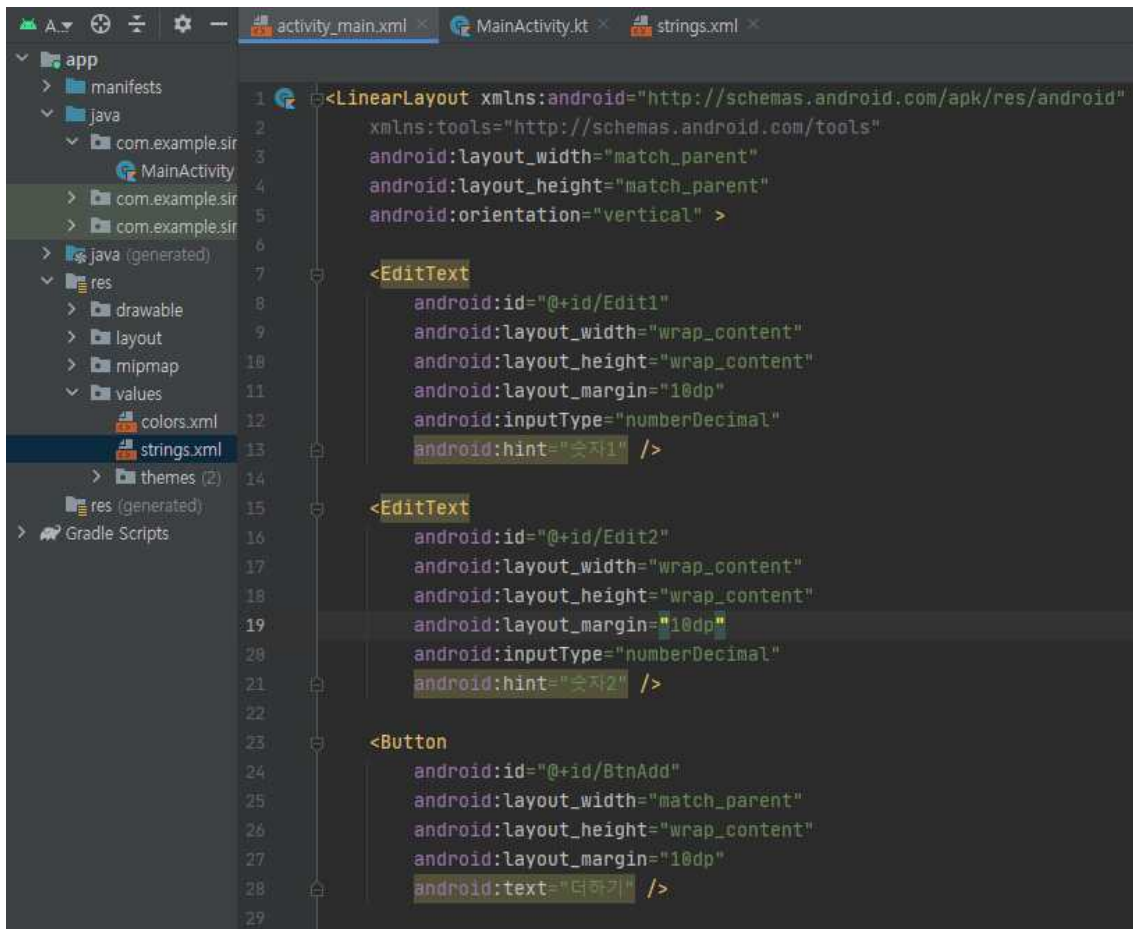
```

<string.xml>



```
<resources >
    <string name="app_name">최영환_2016305078 계산기 </string >
</resources >
```


<activity_main.xml>



```
1 <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
2   xmlns:tools="http://schemas.android.com/tools"
3   android:layout_width="match_parent"
4   android:layout_height="match_parent"
5   android:orientation="vertical" >
6
7   <EditText
8     android:id="@+id/Edit1"
9     android:layout_width="wrap_content"
10    android:layout_height="wrap_content"
11    android:layout_margin="10dp"
12    android:inputType="numberDecimal"
13    android:hint="@string/숫자1" />
14
15   <EditText
16     android:id="@+id/Edit2"
17     android:layout_width="wrap_content"
18     android:layout_height="wrap_content"
19     android:layout_margin="10dp"
20     android:inputType="numberDecimal"
21     android:hint="@string/숫자2" />
22
23   <Button
24     android:id="@+id/BtnAdd"
25     android:layout_width="match_parent"
26     android:layout_height="wrap_content"
27     android:layout_margin="10dp"
28     android:text="@string/더하기" />
29
```

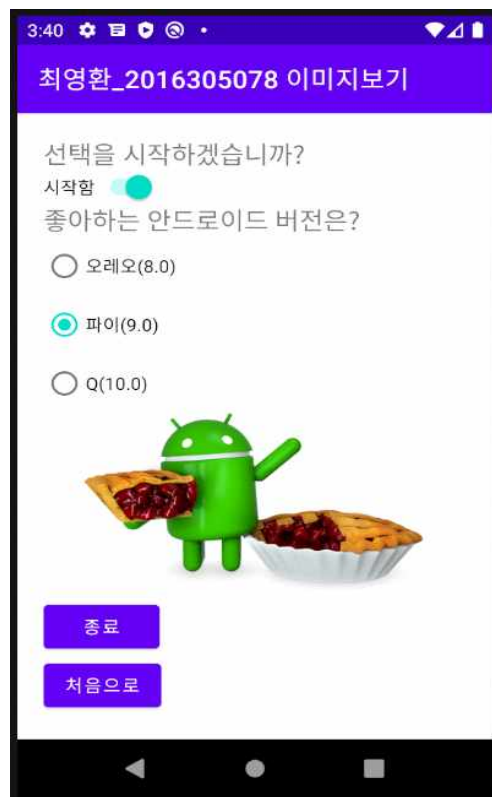
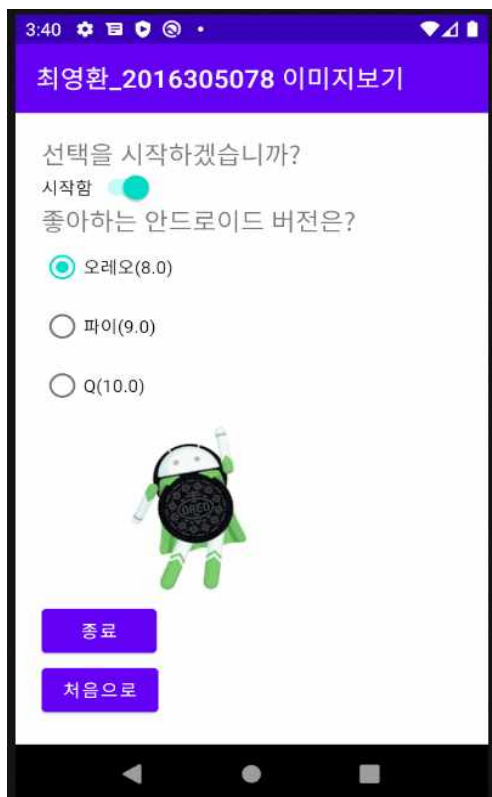
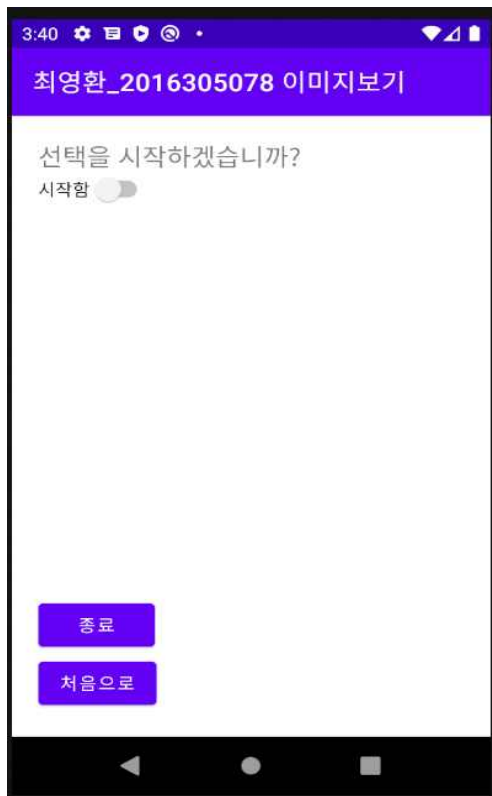
```
activity_main.xml MainActivity.kt strings.xml
app
├── manifests
├── java
│   ├── com.example.sir
│   │   ├── MainActivity
│   │   ├── com.example.sir
│   │   └── com.example.sir
│   └── java (generated)
├── res
│   ├── drawable
│   ├── layout
│   ├── mipmap
│   └── values
│       ├── colors.xml
│       └── strings.xml
├── themes (2)
├── res (generated)
└── Gradle Scripts

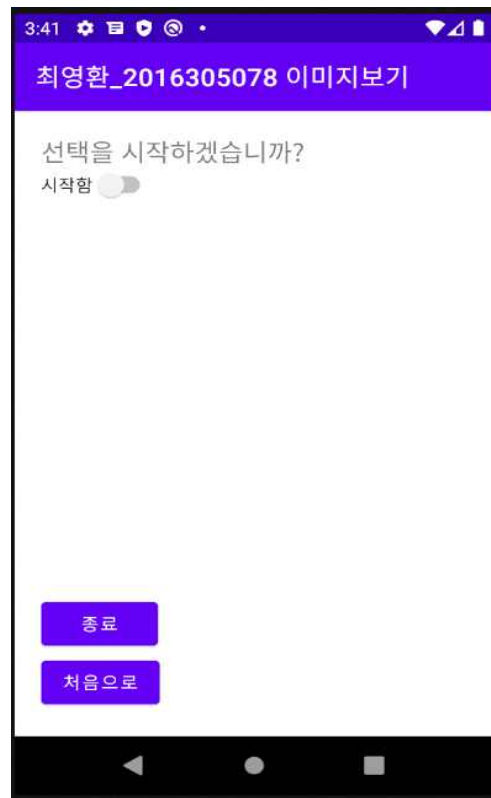
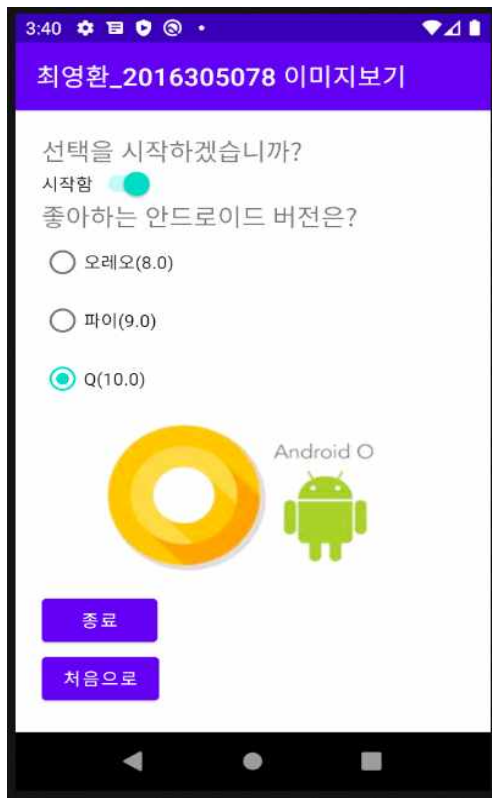
30 <Button
31     android:id="@+id/BtnSub"
32     android:layout_width="match_parent"
33     android:layout_height="wrap_content"
34     android:layout_margin="10dp"
35     android:text="빼기" />
36
37 <Button
38     android:id="@+id/BtnMul"
39     android:layout_width="match_parent"
40     android:layout_height="wrap_content"
41     android:layout_margin="10dp"
42     android:text="곱하기" />
43
44 <Button
45     android:id="@+id/BtnDiv"
46     android:layout_width="match_parent"
47     android:layout_height="wrap_content"
48     android:layout_margin="10dp"
49     android:text="나누기" />
50
51 <Button
52     android:id="@+id/BtnRem"
53     android:layout_width="match_parent"
54     android:layout_height="wrap_content"
55     android:layout_margin="10dp"
56     android:text="나머지 값" />
57
58 <TextView
59     android:id="@+id/TextResult"
60     android:layout_width="wrap_content"
61     android:layout_height="wrap_content"
62     android:text="계산 결과 : "
63     android:layout_weight="1"
64     android:textColor="#FF0000"
65     android:textSize="30dp" />
66
67 </LinearLayout>
```

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"
android:orientation="vertical">
    <EditText
android:id="@+id/Edit1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:inputType="numberDecimal"
android:hint="숫자1"/>
    <EditText
android:id="@+id/Edit2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:inputType="numberDecimal"
android:hint="숫자2"/>
    <Button
android:id="@+id/BtnAdd"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:text="더하기"/>
    <Button
android:id="@+id/BtnSub"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:text="빼기"/>
    <Button
android:id="@+id/BtnMul"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:text="곱하기"/>
    <Button
android:id="@+id/BtnDiv"
android:layout_width="match_parent"
android:layout_height="wrap_content"
```

```
android:layout_margin="10dp"
android:text="나누기"/>
    <Button
android:id="@+id/BtnRem"
android:layout_width="match_parent"
android:layout_height="wrap_content"
android:layout_margin="10dp"
android:text="나머지 값"/>
    <TextView
android:id="@+id/TextResult"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="계산 결과 : "
android:layout_weight="1"
android:textColor="#FF0000"
android:textSize="30dp"/>
</LinearLayout >
```

<실행화면>

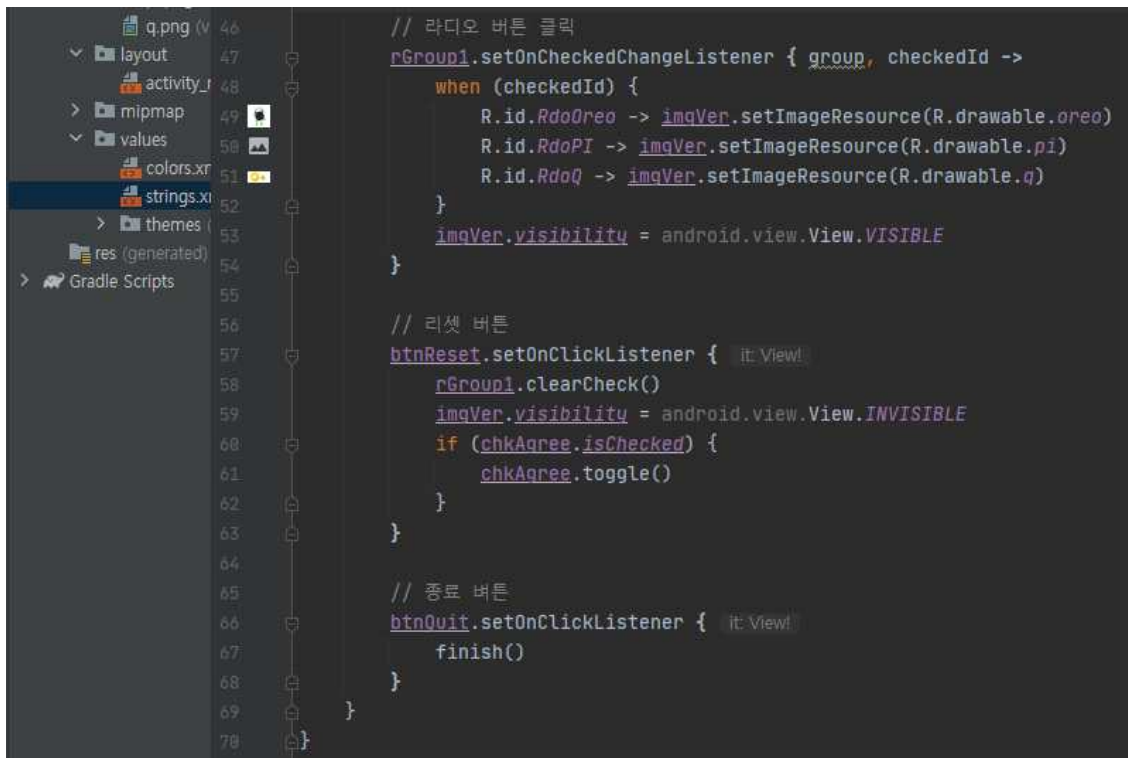




※ 리셋 버튼과 종료 버튼 모두 정상 동작함을 확인하였습니다.

<MainActivity.java>

```
activity_main.xml x MainActivity.kt x strings.xml x
1 package com.example.simpleimageviewer
2
3 import ...
4
5 class MainActivity : AppCompatActivity() {
6     lateinit var text1: TextView;      lateinit var text2: TextView
7     lateinit var chkAgree: Switch;      lateinit var imgVer: ImageView
8     lateinit var rGroup1: RadioGroup;    lateinit var rdoDog: RadioButton
9     lateinit var rdoCat: RadioButton;    lateinit var rdoRabbit: RadioButton
10    lateinit var btnQuit: Button;        lateinit var btnReset: Button
11
12    override fun onCreate(savedInstanceState: Bundle?) {
13        super.onCreate(savedInstanceState)
14        setContentView(R.layout.activity_main)
15
16        text1 = findViewById<TextView>(R.id.Text1)
17        chkAgree = findViewById<Switch>(R.id.ChkAgree)
18
19        text2 = findViewById<TextView>(R.id.Text2)
20        rGroup1 = findViewById<RadioGroup>(R.id.Rgroup1)
21        rdoDog = findViewById<RadioButton>(R.id.RdoOreo)
22        rdoCat = findViewById<RadioButton>(R.id.RdoPI)
23        rdoRabbit = findViewById<RadioButton>(R.id.RdoQ)
24
25        btnReset = findViewById<Button>(R.id.BtnReset)
26        btnQuit = findViewById<Button>(R.id.BtnQuit)
27        imgVer = findViewById<ImageView>(R.id.ImgVer)
28
29        // 스위치
30        chkAgree.setOnCheckedChangeListener { compoundButton, b ->
31            // 체크되면 모두 보이도록 설정
32            if (chkAgree.isChecked == true) {
33                text2.visibility = android.view.View.VISIBLE
34                rGroup1.visibility = android.view.View.VISIBLE
35            } else {
36                // 미체크시 모두 안보이도록 설정
37                text2.visibility = android.view.View.INVISIBLE
38                rGroup1.visibility = android.view.View.INVISIBLE
39                imgVer.visibility = android.view.View.INVISIBLE
40            }
41        }
42    }
43 }
44
```

package com.example.simpleimageviewer

import androidx.appcompat.app.AppCompatActivity

import android.os.Bundle

import android.view.View

import android.widget.*

class MainActivity : AppCompatActivity() {

lateinit var text1: TextView; lateinit var text2: TextView

lateinit var chkAgree: Switch; lateinit var imgVer: ImageView

lateinit var rGroup1: RadioGroup; lateinit var rdoDog: RadioButton

lateinit var rdoCat: RadioButton; lateinit var rdoRabbit: RadioButton

lateinit var btnQuit: Button; lateinit var btnReset: Button

override fun onCreate(savedInstanceState: Bundle?) {

super.onCreate(savedInstanceState)

setContentView(R.layout.activity_main)

text1 = findViewById <TextView >(R.id.Text1)

chkAgree = findViewById <Switch >(R.id.ChkAgree)

text2 = findViewById <TextView >(R.id.Text2)

rGroup1 = findViewById <RadioGroup >(R.id.Rgroup1)

rdoDog = findViewById <RadioButton >(R.id.RdoOreo)

rdoCat = findViewById <RadioButton >(R.id.RdoPI)

rdoRabbit = findViewById <RadioButton >(R.id.RdoQ)

btnReset = findViewById <Button >(R.id.BtnReset)


```

btnQuit = findViewById <Button >(R.id.BtnQuit)
imgVer = findViewById <ImageView >(R.id.ImgVer)
// 스위치
chkAgree.setOnCheckedChangeListener { compoundButton, b ->
    // 체크되면 모두 보이도록 설정
    if (chkAgree.isChecked ==true) {
        text2.visibility = android.view.View.VISIBLE
        rGroup1.visibility = android.view.View.VISIBLE
    // 미체크시 모두 안보이도록 설정
    } else {
        text2.visibility = android.view.View.INVISIBLE
        rGroup1.visibility = android.view.View.INVISIBLE
        imgVer.visibility = android.view.View.INVISIBLE
    }
}
// 라디오 버튼 클릭
rGroup1.setOnCheckedChangeListener { group, checkedId ->
    when (checkedId) {
        R.id.RdoOreo -> imgVer.setImageResource(R.drawable.oreo)
        R.id.RdoPI -> imgVer.setImageResource(R.drawable.pi)
        R.id.RdoQ -> imgVer.setImageResource(R.drawable.q)
    }
    imgVer.visibility = android.view.View.VISIBLE
}
// 리셋 버튼
btnReset.setOnClickListener {
    rGroup1.clearCheck()
    imgVer.visibility = android.view.View.INVISIBLE
    if (chkAgree.isChecked) {
        chkAgree.toggle()
    }
}
// 종료 버튼
btnQuit.setOnClickListener {
    finish()
}
}
}

```

<string.xml>

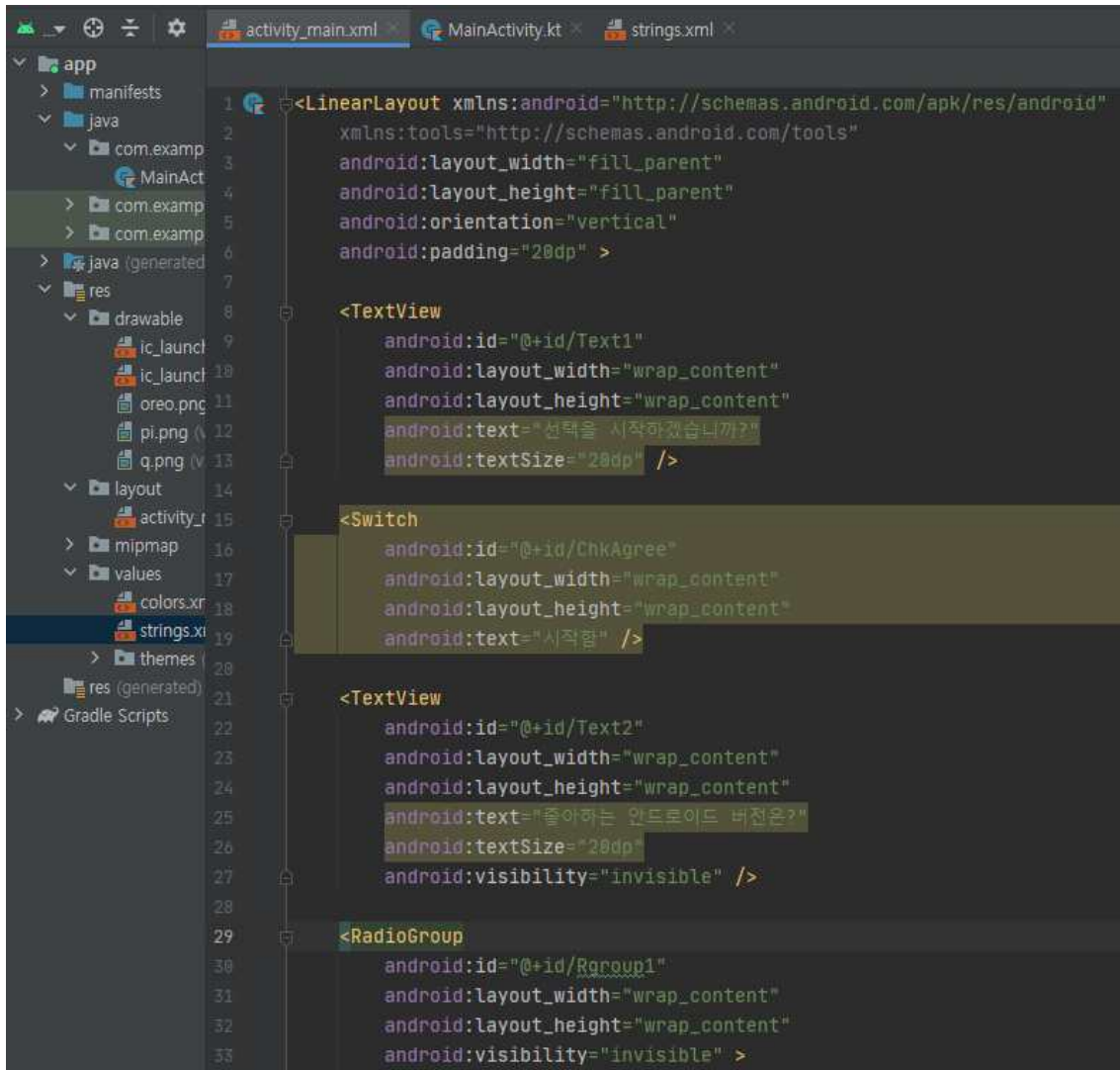


<resources >

 <string name="app_name">최영환_2016305078 이미지보기 </string >

</resources >

<activity_main.xml>



```
activity_main.xml x MainActivity.kt x strings.xml x
app
├── manifests
├── java
│   ├── com.examp
│   │   └── MainAct
│   ├── com.examp
│   └── com.examp
├── java (generated)
├── res
│   ├── drawable
│   │   ├── ic_launc
│   │   ├── ic_launc
│   │   ├── oreo.png
│   │   ├── pi.png
│   │   └── q.png
│   ├── layout
│   │   └── activity_l
│   ├── mipmap
│   └── values
│       ├── colors.xr
│       └── strings.xi
├── themes
└── res (generated)
Gradle Scripts

35 <RadioButton
36     android:id="@+id/RdoOreo"
37     android:layout_width="wrap_content"
38     android:layout_height="wrap_content"
39     android:text="@string/오레오(8.0)" />
40
41
42 <RadioButton
43     android:id="@+id/RdoPI"
44     android:layout_width="wrap_content"
45     android:layout_height="wrap_content"
46     android:text="@string/파이(9.0)" />
47
48 <RadioButton
49     android:id="@+id/RdoQ"
50     android:layout_width="wrap_content"
51     android:layout_height="wrap_content"
52     android:text="@string/Q(10.0)" />
53 </RadioGroup>
54
55 <ImageView
56     android:id="@+id/ImgVer"
57     android:layout_width="wrap_content"
58     android:layout_height="wrap_content"
59     android:layout_weight="1"/>
60
61 <Button
62     android:id="@+id/BtnQuit"
63     android:layout_width="wrap_content"
64     android:layout_height="wrap_content"
65     android:text="@string/종료"/>
66
67 <Button
68     android:id="@+id/BtnReset"
69     android:layout_width="wrap_content"
70     android:layout_height="wrap_content"
71     android:text="@string/처음으로"/>
72 </LinearLayout>
```

```
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="fill_parent"
android:layout_height="fill_parent"
android:orientation="vertical"
android:padding="20dp">
    <TextView
android:id="@+id/Text1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="선택을 시작하겠습니까?"
android:textSize="20dp"/>
    <Switch
android:id="@+id/ChkAgree"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="시작함"/>
    <TextView
android:id="@+id/Text2"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="좋아하는 안드로이드 버전은?"
android:textSize="20dp"
android:visibility="invisible"/>
    <RadioGroup
android:id="@+id/Rgroup1"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:visibility="invisible">
        <RadioButton
android:id="@+id/RdoOreo"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="오레오(8.0)/>
        <RadioButton
android:id="@+id/RdoPI"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="파이(9.0)/>
        <RadioButton
android:id="@+id/RdoQ"
```

```
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="Q(10.0)"/>
    </RadioGroup >
    <ImageView
android:id="@+id/ImgVer"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:layout_weight="1"/>
    <Button
android:id="@+id/BtnQuit"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="종료"/>
    <Button
android:id="@+id/BtnReset"
android:layout_width="wrap_content"
android:layout_height="wrap_content"
android:text="처음으로"/>
</LinearLayout >
```