

스마트폰 프로그래밍

Assign #03

(제목 : Linear Layout Activity 작성)

학번 : 2018305068

성명 : 정 동 기

제출일자 : 2022.10.23

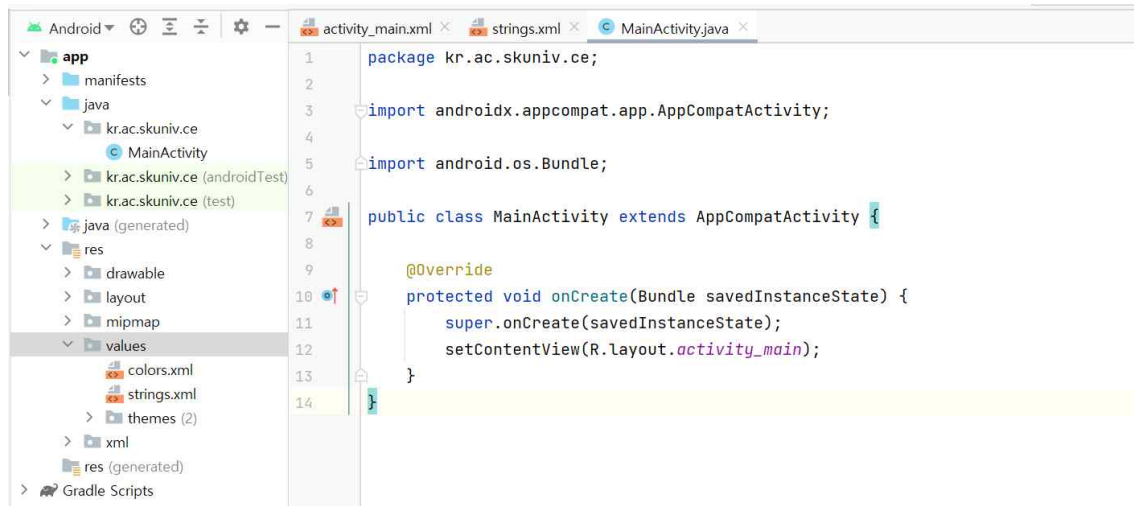
본인은 타인이나 다른 매체를 도용하지 않았음을 확인합니다 <정동기>

1. 여러 개의 LinearLayout을 사용해 Button 위젯을 다음과 같이 배열하는 Activity를 XML만을 이용하여 작성하시오.

<실행화면>



<MainActivity.java>



```
package kr.ac.skuniv.ce;
```

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

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

```
public class MainActivity extends AppCompatActivity {
```

```
    @Override
```

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

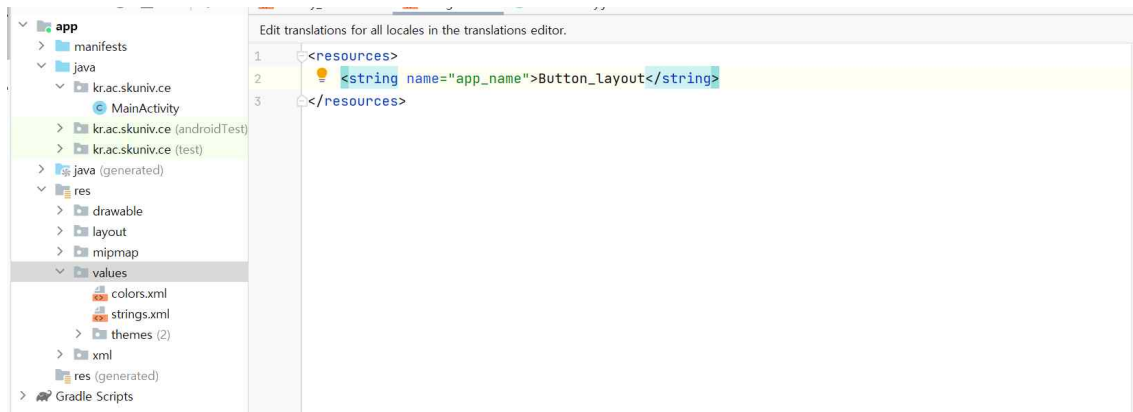
```
        super.onCreate(savedInstanceState);
```

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

```
    }
```

```
}
```

<string.xml>



```
<resources>
<string name="app_name">Button_layout</string>
</resources>
```

<activity_main.xml>

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3     android:gravity="center"
4     android:layout_width="match_parent"
5     android:layout_height="match_parent"
6     android:orientation="vertical">
7     <LinearLayout
8         android:gravity="center"
9         android:layout_width="wrap_content"
10        android:layout_height="wrap_content"
11        android:orientation="vertical">
12        <Button
13            android:id="@+id/button1"
14            android:layout_width="wrap_content"
15            android:layout_height="wrap_content"
16            android:layout_weight="1"
17            android:background="#D8E98A"
18            android:padding="15dp"
19            android:text="버튼1"
20            android:textSize="30dp" />
21
22        <Button
23            android:id="@+id/button2"
24            android:layout_width="wrap_content"
25            android:layout_height="wrap_content"
26            android:layout_marginTop="10dp"
27            android:layout_weight="1"
28            android:background="#D8E98A"
29            android:padding="15dp"
30            android:text="버튼2"
31            android:textSize="30dp" />
32
33        <LinearLayout
34            android:layout_marginTop="100dp"
35            android:layout_marginBottom="100dp"
36            android:layout_width="wrap_content"
37            android:layout_height="wrap_content"
38            android:orientation="horizontal">
39            <Button
40                android:id="@+id/button3"
41                android:layout_width="wrap_content"
42                android:layout_height="wrap_content"
43                android:layout_weight="1"
44                android:background="#D8E98A"
45                android:textSize="30dp"
46                android:padding="15dp"
47                android:text="버튼3" />
48
49            <Button
50                android:layout_marginLeft="10dp"
51                android:id="@+id/button4"
52                android:layout_width="wrap_content"
53                android:layout_height="wrap_content"
54                android:layout_weight="1"
55                android:background="#D8E98A"
56                android:textSize="30dp"
57                android:padding="15dp"
58                android:text="버튼4" />
59
60        </LinearLayout>
61
62        <Button
63            android:id="@+id/button5"
64            android:layout_width="wrap_content"
65            android:layout_height="wrap_content"
66            android:layout_weight="1"
67            android:background="#D8E98A"
68            android:textSize="30dp"
69            android:padding="15dp"
70            android:text="버튼5" />
71
72        <Button
73            android:id="@+id/button6"
```

```

69
70
71
72
73
74
75
76
77
78
79

```

```

        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:layout_weight="1"
        android:background="#D8E98A"
        android:textSize="30dp"
        android:padding="15dp"
        android:text="버튼6" />
    </LinearLayout>
</LinearLayout>

```

```

<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:gravity="center"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">
    <LinearLayout
        android:gravity="center"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:orientation="vertical">
        <Button
            android:id="@+id/button1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:background="#D8E98A"
            android:padding="15dp"
            android:text="버튼1"
            android:textSize="30dp" />

        <Button
            android:id="@+id/button2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_marginTop="10dp"
            android:layout_weight="1"
            android:background="#D8E98A"
            android:padding="15dp"
            android:text="버튼2"
            android:textSize="30dp" />
        <LinearLayout
            android:layout_marginTop="100dp"
            android:layout_marginBottom="100dp"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:orientation="horizontal">
            <Button
                android:id="@+id/button3"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_weight="1"
                android:background="#D8E98A"
                android:textSize="30dp"
                android:padding="15dp"
                android:text="버튼3" />
            <Button
                android:layout_marginLeft="10dp"
                android:id="@+id/button4"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_weight="1"
                android:background="#D8E98A"
                android:textSize="30dp"

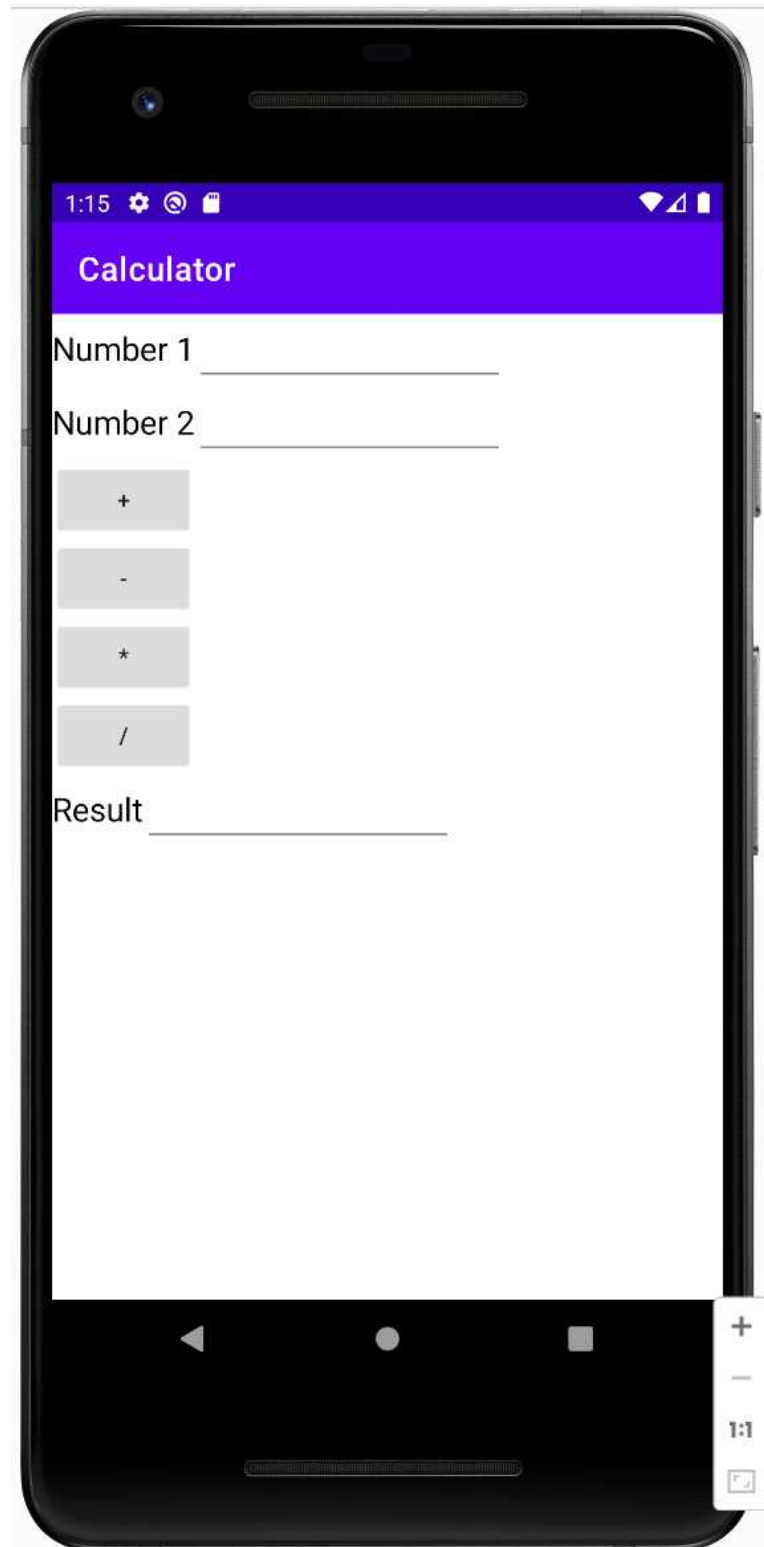
```

```
        android:padding="15dp"
        android:text="버튼 4" />
    </LinearLayout>
    <Button
        android:id="@+id/button5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:background="#D8E98A"
        android:textSize="30dp"
        android:padding="15dp"
        android:text="버튼 5" />
    <Button
        android:id="@+id/button6"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="10dp"
        android:layout_weight="1"
        android:background="#D8E98A"
        android:textSize="30dp"
        android:padding="15dp"
        android:text="버튼 6" />
    </LinearLayout>

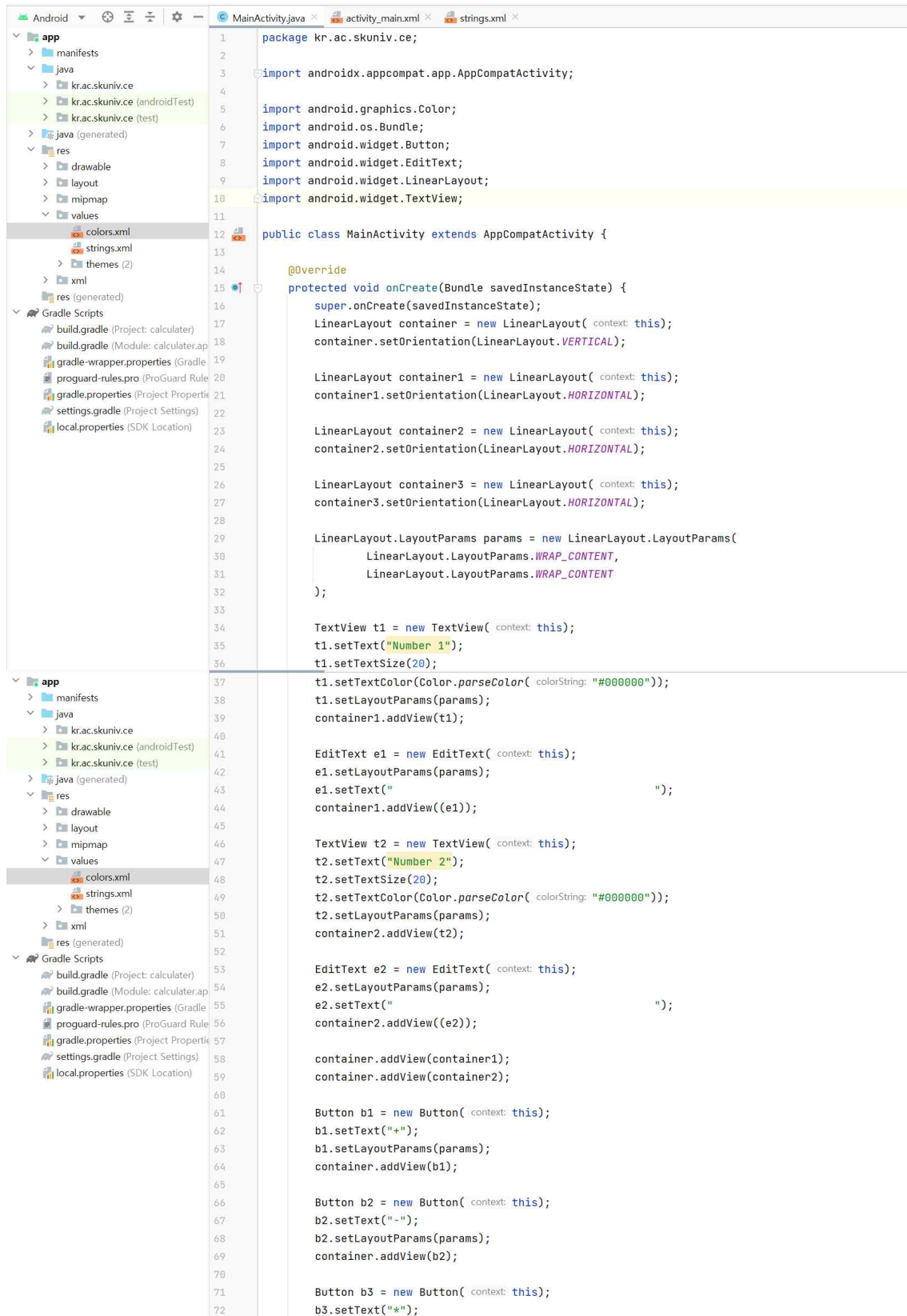
</LinearLayout>
```

2. 교제 p. 161의 Activity를 Java만을 이용해 구현하시오(XML 사용 금지)

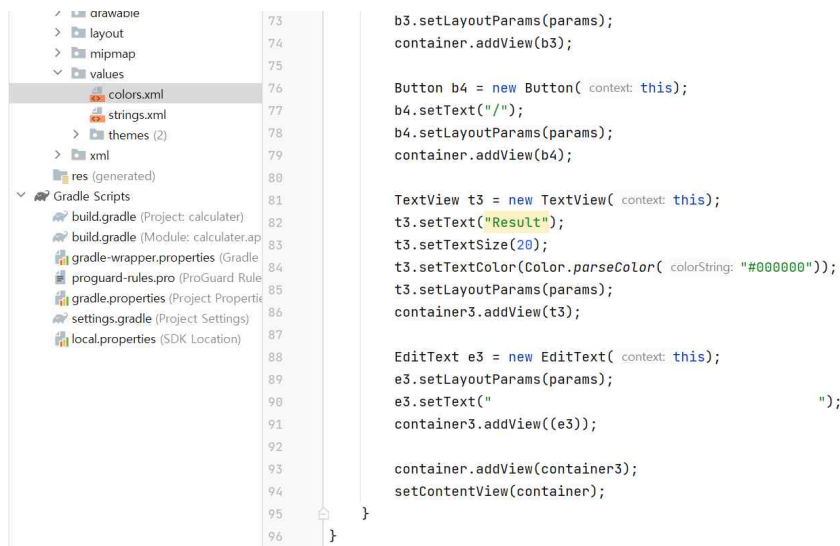
<실행화면>



<MainActivity.java>



```
1 package kr.ac.skuniv.ce;
2
3 import androidx.appcompat.app.AppCompatActivity;
4
5 import android.graphics.Color;
6 import android.os.Bundle;
7 import android.widget.Button;
8 import android.widget.EditText;
9 import android.widget.LinearLayout;
10 import android.widget.TextView;
11
12 public class MainActivity extends AppCompatActivity {
13
14     @Override
15     protected void onCreate(Bundle savedInstanceState) {
16         super.onCreate(savedInstanceState);
17         LinearLayout container = new LinearLayout( context: this);
18         container.setOrientation(LinearLayout.VERTICAL);
19
20         LinearLayout container1 = new LinearLayout( context: this);
21         container1.setOrientation(LinearLayout.HORIZONTAL);
22
23         LinearLayout container2 = new LinearLayout( context: this);
24         container2.setOrientation(LinearLayout.HORIZONTAL);
25
26         LinearLayout container3 = new LinearLayout( context: this);
27         container3.setOrientation(LinearLayout.HORIZONTAL);
28
29         LinearLayout.LayoutParams params = new LinearLayout.LayoutParams(
30             LinearLayout.LayoutParams.WRAP_CONTENT,
31             LinearLayout.LayoutParams.WRAP_CONTENT
32         );
33
34         TextView t1 = new TextView( context: this);
35         t1.setText("Number 1");
36         t1.setTextSize(20);
37         t1.setTextColor(Color.parseColor( colorString: "#000000"));
38         t1.setLayoutParams(params);
39         container1.addView(t1);
40
41         EditText e1 = new EditText( context: this);
42         e1.setLayoutParams(params);
43         e1.setText(" ");
44         container1.addView((e1));
45
46         TextView t2 = new TextView( context: this);
47         t2.setText("Number 2");
48         t2.setTextSize(20);
49         t2.setTextColor(Color.parseColor( colorString: "#000000"));
50         t2.setLayoutParams(params);
51         container2.addView(t2);
52
53         EditText e2 = new EditText( context: this);
54         e2.setLayoutParams(params);
55         e2.setText(" ");
56         container2.addView((e2));
57
58         container.addView(container1);
59         container.addView(container2);
60
61         Button b1 = new Button( context: this);
62         b1.setText("+");
63         b1.setLayoutParams(params);
64         container.addView(b1);
65
66         Button b2 = new Button( context: this);
67         b2.setText("-");
68         b2.setLayoutParams(params);
69         container.addView(b2);
70
71         Button b3 = new Button( context: this);
72         b3.setText("*");
```



```
package kr.ac.skuniv.ce;
```

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

```
import android.graphics.Color;
```

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

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

```
import android.widget.EditText;
```

```
import android.widget.LinearLayout;
```

```
import android.widget.TextView;
```

```
public class MainActivity extends AppCompatActivity {
```

```
    @Override
```

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

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

```
        LinearLayout container = new LinearLayout(this);
```

```
        container.setOrientation(LinearLayout.VERTICAL);
```

```
        LinearLayout container1 = new LinearLayout(this);
```

```
        container1.setOrientation(LinearLayout.HORIZONTAL);
```

```
        LinearLayout container2 = new LinearLayout(this);
```

```
        container2.setOrientation(LinearLayout.HORIZONTAL);
```

```
        LinearLayout container3 = new LinearLayout(this);
```

```
        container3.setOrientation(LinearLayout.HORIZONTAL);
```

```
        LinearLayout.LayoutParams params = new LinearLayout.LayoutParams(
```

```
            LinearLayout.LayoutParams.WRAP_CONTENT,
```

```
            LinearLayout.LayoutParams.WRAP_CONTENT
```

```
        );
```

```
        TextView t1 = new TextView(this);
```

```
        t1.setText("Number 1");
```

```
        t1.setTextSize(20);
```

```
        t1.setTextColor(Color.parseColor("#000000"));
```

```
        t1.setLayoutParams(params);
```

```
        container1.addView(t1);
```

```
        EditText e1 = new EditText(this);
```

```
        e1.setLayoutParams(params);
```

```
        e1.setText("                ");
```

```
        container1.addView((e1));
```

```

TextView t2 = new TextView(this);
t2.setText("Number 2");
t2.setTextSize(20);
t2.setTextColor(Color.parseColor("#000000"));
t2.setLayoutParams(params);
container2.addView(t2);

EditText e2 = new EditText(this);
e2.setLayoutParams(params);
e2.setText("                ");
container2.addView((e2));

container.addView(container1);
container.addView(container2);

Button b1 = new Button(this);
b1.setText("+");
b1.setLayoutParams(params);
container.addView(b1);

Button b2 = new Button(this);
b2.setText("-");
b2.setLayoutParams(params);
container.addView(b2);

Button b3 = new Button(this);
b3.setText("*");
b3.setLayoutParams(params);
container.addView(b3);

Button b4 = new Button(this);
b4.setText("/");
b4.setLayoutParams(params);
container.addView(b4);

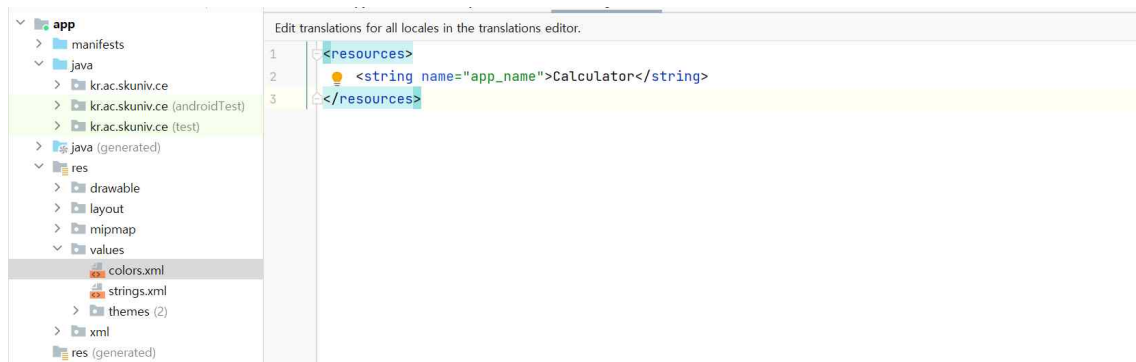
TextView t3 = new TextView(this);
t3.setText("Result");
t3.setTextSize(20);
t3.setTextColor(Color.parseColor("#000000"));
t3.setLayoutParams(params);
container3.addView(t3);

EditText e3 = new EditText(this);
e3.setLayoutParams(params);
e3.setText("                ");
container3.addView((e3));

container.addView(container3);
setContentView(container);
}
}

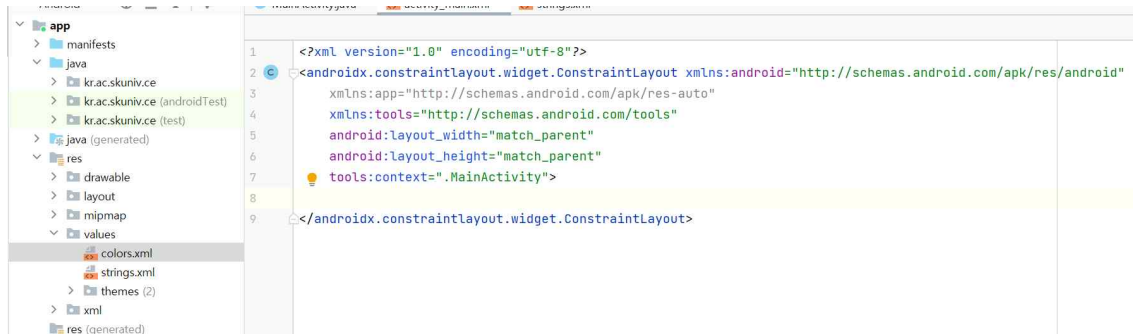
```

<string.xml>



```
<resources>
<string name="app_name">Calculator</string>
</resources>
```

<activity_main.xml>

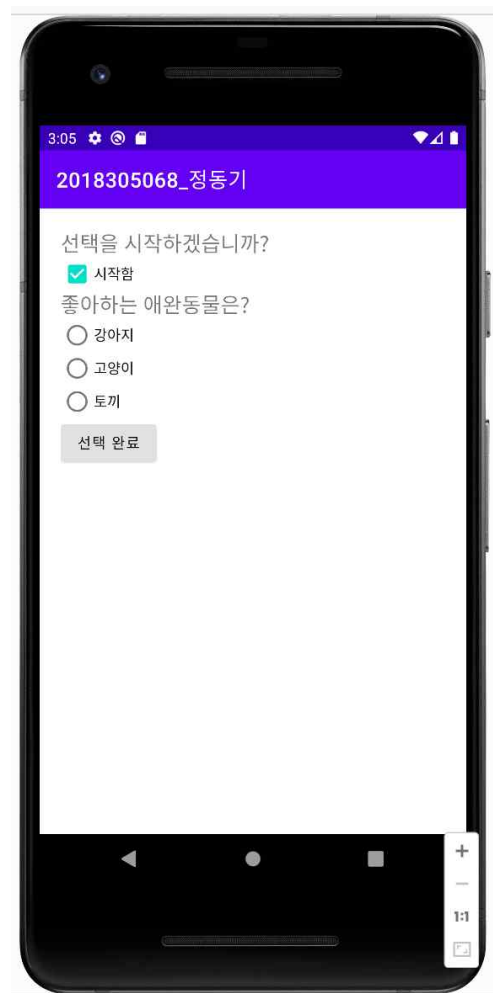


```
<?xml version="1.0" encoding="utf-8"?>
<androidx.constraintlayout.widget.ConstraintLayout
xmlns:android="http://schemas.android.com/apk/res/android"
xmlns:app="http://schemas.android.com/apk/res-auto"
xmlns:tools="http://schemas.android.com/tools"
android:layout_width="match_parent"
android:layout_height="match_parent"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

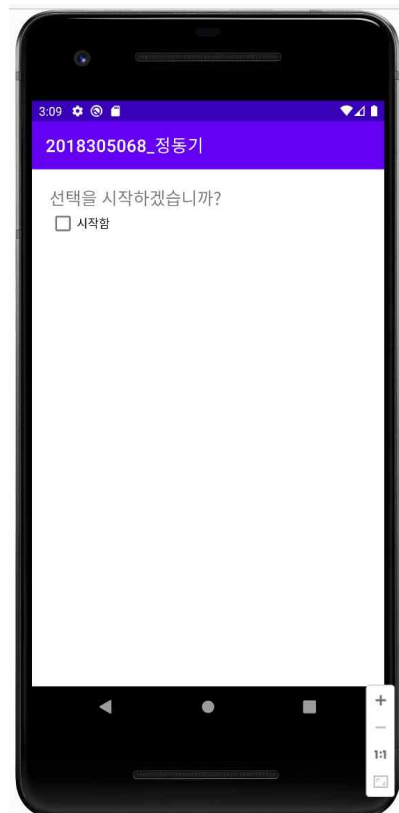
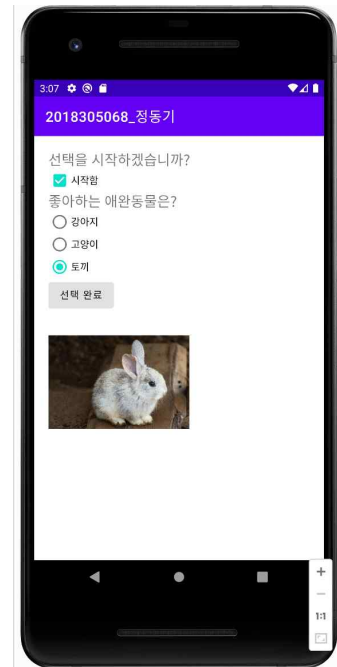
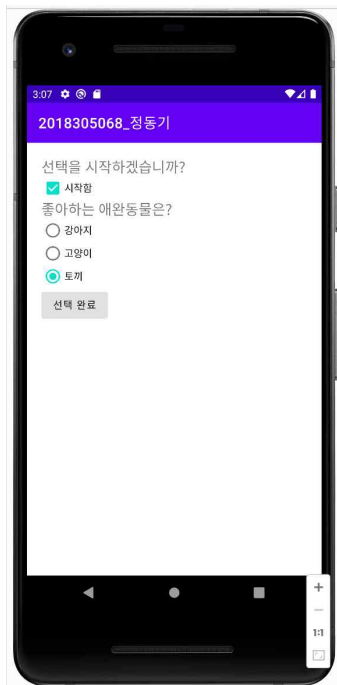
```
</androidx.constraintlayout.widget.ConstraintLayout>
```

3. 아래와 같은 TextView와 CheckBox를 가진 초기화면(좌측)을 작성하고, 시작함을 체크하면 우측 그림과 같이 좋아하는 애완동물을 선택하는 RadioButton과 선택 완료 Button이 나타난다(미리 만들어 놓았다가 Visible 속성 변경)

<실행화면>

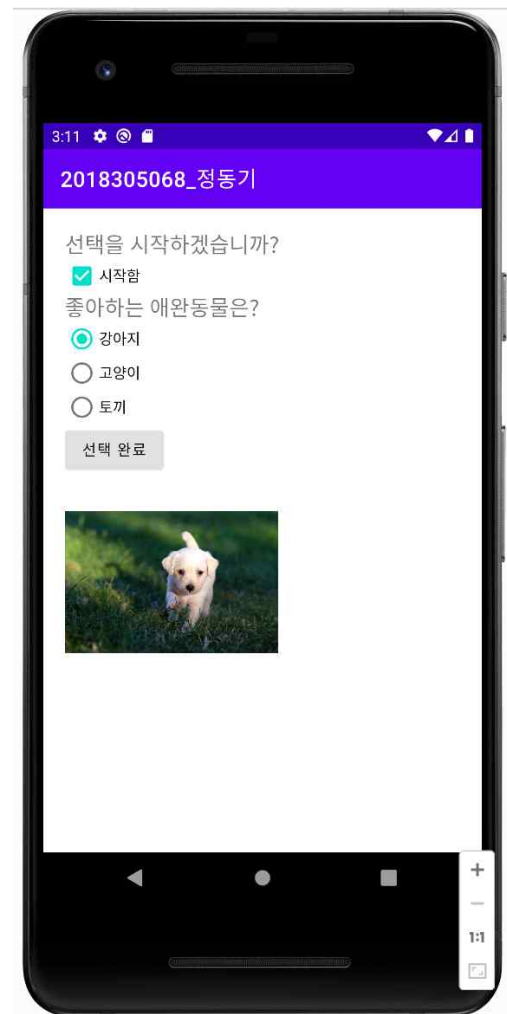
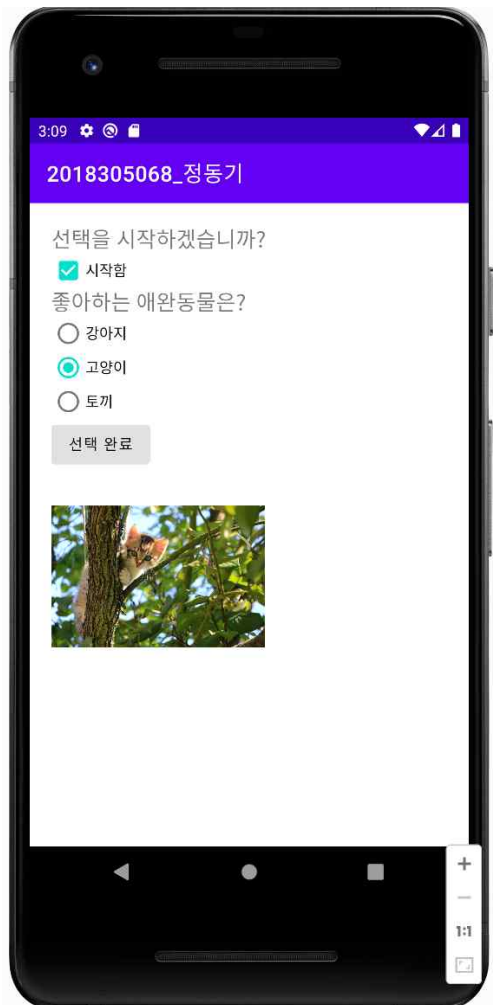


여기에서 좋아하는 애완동물을 선택하고 선택 완료 Button을 누르면 해당 동물의 사진(임의로 선정해 사용)이 나타난다(좌측). 언제나 시작함 체크를 해제하면 초기화면으로 돌아간다.

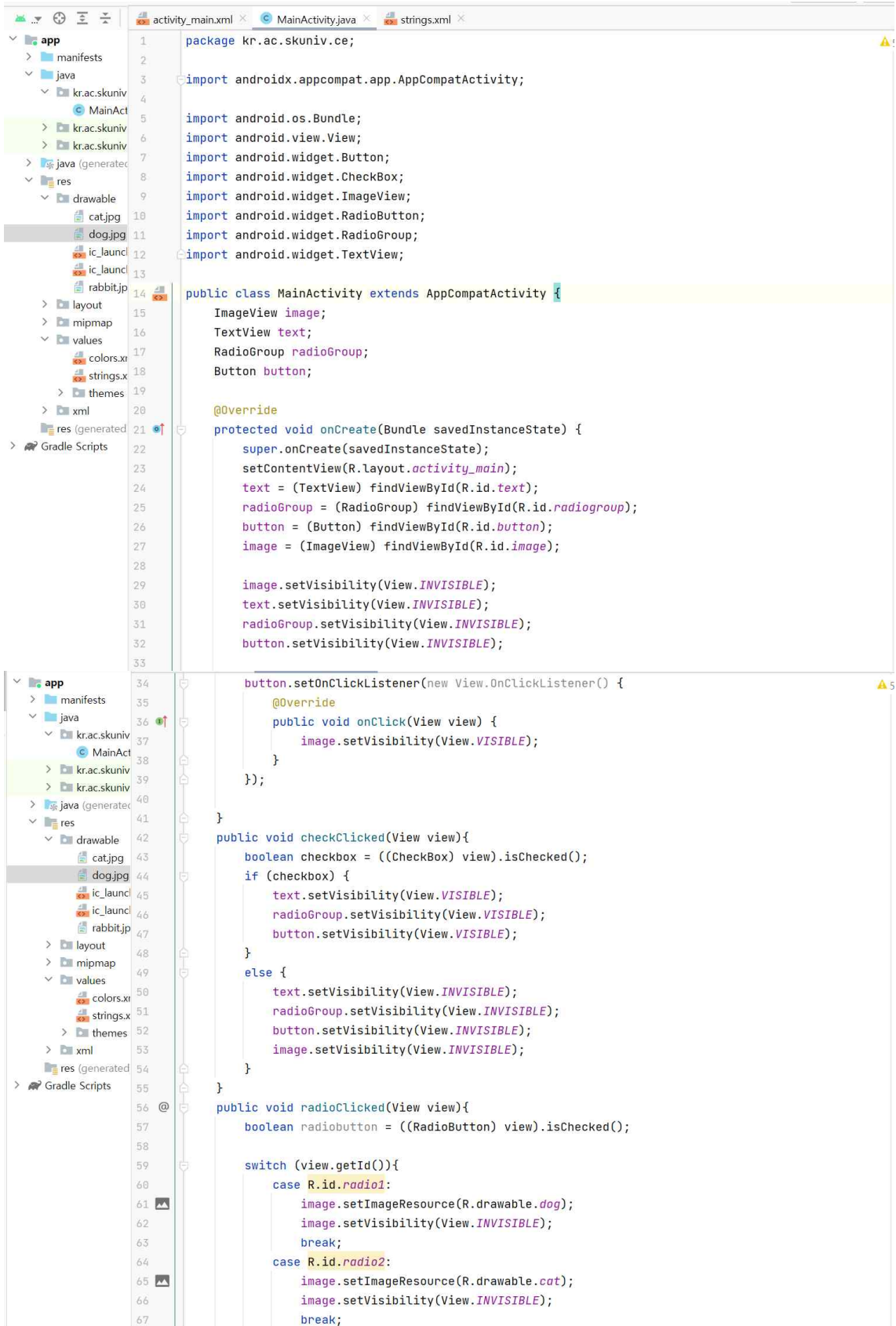


checkbox 끄

다른 예시이다(고양이, 강아지)



<MainActivity.java>



```
1 package kr.ac.skuniv.ce;
2
3 import androidx.appcompat.app.AppCompatActivity;
4
5 import android.os.Bundle;
6 import android.view.View;
7 import android.widget.Button;
8 import android.widget.CheckBox;
9 import android.widget.ImageView;
10 import android.widget.RadioButton;
11 import android.widget.RadioGroup;
12 import android.widget.TextView;
13
14 public class MainActivity extends AppCompatActivity {
15     ImageView image;
16     TextView text;
17     RadioGroup radioGroup;
18     Button button;
19
20     @Override
21     protected void onCreate(Bundle savedInstanceState) {
22         super.onCreate(savedInstanceState);
23         setContentView(R.layout.activity_main);
24         text = (TextView) findViewById(R.id.text);
25         radioGroup = (RadioGroup) findViewById(R.id.radiogroup);
26         button = (Button) findViewById(R.id.button);
27         image = (ImageView) findViewById(R.id.image);
28
29         image.setVisibility(View.INVISIBLE);
30         text.setVisibility(View.INVISIBLE);
31         radioGroup.setVisibility(View.INVISIBLE);
32         button.setVisibility(View.INVISIBLE);
33
34         button.setOnClickListener(new View.OnClickListener() {
35             @Override
36             public void onClick(View view) {
37                 image.setVisibility(View.VISIBLE);
38             }
39         });
40     }
41
42     public void checkClicked(View view){
43         boolean checkbox = ((CheckBox) view).isChecked();
44         if (checkbox) {
45             text.setVisibility(View.VISIBLE);
46             radioGroup.setVisibility(View.VISIBLE);
47             button.setVisibility(View.VISIBLE);
48         }
49         else {
50             text.setVisibility(View.INVISIBLE);
51             radioGroup.setVisibility(View.INVISIBLE);
52             button.setVisibility(View.INVISIBLE);
53             image.setVisibility(View.INVISIBLE);
54         }
55     }
56
57     @
58     public void radioClicked(View view){
59         boolean radiobutton = ((RadioButton) view).isChecked();
60
61         switch (view.getId()){
62             case R.id.radio1:
63                 image.setImageResource(R.drawable.dog);
64                 image.setVisibility(View.INVISIBLE);
65                 break;
66             case R.id.radio2:
67                 image.setImageResource(R.drawable.cat);
68                 image.setVisibility(View.INVISIBLE);
69                 break;
```



```

package kr.ac.skuniv.ce;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.CheckBox;
import android.widget.ImageView;
import android.widget.RadioButton;
import android.widget.RadioGroup;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    ImageView image;
    TextView text;
    RadioGroup radioGroup;
    Button button;

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        text = (TextView) findViewById(R.id.text);
        radioGroup = (RadioGroup) findViewById(R.id.radiogroup);
        button = (Button) findViewById(R.id.button);
        image = (ImageView) findViewById(R.id.image);

        image.setVisibility(View.INVISIBLE);
        text.setVisibility(View.INVISIBLE);
        radioGroup.setVisibility(View.INVISIBLE);
        button.setVisibility(View.INVISIBLE);

        button.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                image.setVisibility(View.VISIBLE);
            }
        });

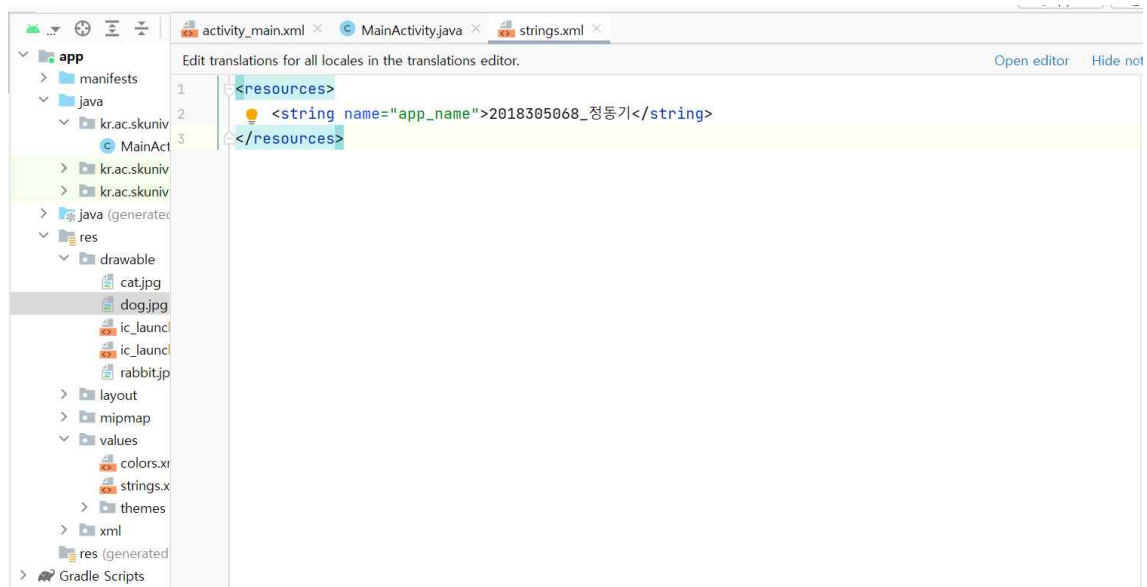
        public void checkClicked(View view){
            boolean checkbox = ((CheckBox) view).isChecked();
            if (checkbox) {
                text.setVisibility(View.VISIBLE);
                radioGroup.setVisibility(View.VISIBLE);
                button.setVisibility(View.VISIBLE);
            }
            else {
                text.setVisibility(View.INVISIBLE);
                radioGroup.setVisibility(View.INVISIBLE);
                button.setVisibility(View.INVISIBLE);
                image.setVisibility(View.INVISIBLE);
            }
        }

        public void radioClicked(View view){
            boolean radiobutton = ((RadioButton) view).isChecked();

```

```
switch (view.getId()){  
case R.id.radio1:  
image.setImageResource(R.drawable.dog);  
image.setVisibility(View.INVISIBLE);  
break;  
case R.id.radio2:  
image.setImageResource(R.drawable.cat);  
image.setVisibility(View.INVISIBLE);  
break;  
case R.id.radio3:  
image.setImageResource(R.drawable.rabbit);  
image.setVisibility(View.INVISIBLE);  
break;  
}  
}  
}
```

<string.xml>



```
<resources>
<string name="app_name">2018305068_정동기</string>
</resources>
```

<activity_main.xml>



```
1 <?xml version="1.0" encoding="utf-8"?>
2 <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3     xmlns:app="http://schemas.android.com/apk/res-auto"
4     android:layout_width="match_parent"
5     android:layout_height="match_parent"
6     android:layout_marginLeft="20dp"
7     android:orientation="vertical">
8     <TextView
9         android:layout_width="wrap_content"
10        android:layout_height="wrap_content"
11        android:layout_marginTop="20dp"
12        android:text="선택을 시작하겠습니까?"
13        android:textSize="20dp"/>
14    <CheckBox android:id="@+id/checkbox"
15        android:layout_width="wrap_content"
16        android:layout_height="wrap_content"
17        android:minWidth="0dp"
18        android:minHeight="0dp"
19        android:onClick="checkClicked"
20        android:text="시작함"
21    />
22    <TextView android:id="@+id/text"
23        android:layout_width="wrap_content"
24        android:layout_height="wrap_content"
25        android:text="좋아하는 애완동물은?"
26        android:textSize="20dp"/>
27    <RadioGroup android:id="@+id/radiogroup"
28        android:layout_width="match_parent"
29        android:layout_height="wrap_content"
30        android:orientation="vertical">
31        <RadioButton android:id="@+id/radio1"
32            android:layout_width="match_parent"
33            android:layout_height="wrap_content"
34            android:minWidth="0dp"
35            android:minHeight="0dp"
36            android:onClick="radioClicked"
37            android:text="강아지"/>
38        <RadioButton android:id="@+id/radio2"
39            android:layout_width="match_parent"
40            android:layout_height="wrap_content"
41            android:minWidth="0dp"
42            android:minHeight="0dp"
43            android:onClick="radioClicked"
44            android:text="고양이"/>
45        <RadioButton android:id="@+id/radio3"
46            android:layout_width="match_parent"
47            android:layout_height="wrap_content"
48            android:minWidth="0dp"
49            android:minHeight="0dp"
50            android:onClick="radioClicked"
51            android:text="토끼"/>
52    </RadioGroup>
53    <Button android:id="@+id/button"
54        android:layout_width="wrap_content"
55        android:layout_height="wrap_content"
56        android:backgroundTint="#D8BFD8"
57        android:textColor="#000000"
58        android:text="선택 완료"/>
59    <ImageView
60        android:id="@+id/image"
61        android:layout_width="200dp"
62        android:layout_height="200dp" />
63 </LinearLayout>
```

```

<?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"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:layout_marginLeft="20dp"
    android:orientation="vertical">
    <TextView
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_marginTop="20dp"
        android:text="선택을 시작하겠습니까?"
        android:textSize="20dp"/>
    <CheckBox android:id="@+id/checkbox"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:minWidth="0dp"
        android:minHeight="0dp"
        android:onClick="checkClicked"
        android:text="시작함"
    />
    <TextView android:id="@+id/text"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="좋아하는 애완동물은?"
        android:textSize="20dp"/>
    <RadioGroup android:id="@+id/radiogroup"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:orientation="vertical">
        <RadioButton android:id="@+id/radio1"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:minWidth="0dp"
            android:minHeight="0dp"
            android:onClick="radioClicked"
            android:text="강아지"/>
        <RadioButton android:id="@+id/radio2"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:minWidth="0dp"
            android:minHeight="0dp"
            android:onClick="radioClicked"
            android:text="고양이"/>
        <RadioButton android:id="@+id/radio3"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:minWidth="0dp"
            android:minHeight="0dp"
            android:onClick="radioClicked"
            android:text="토끼"/>
    </RadioGroup>
    <Button android:id="@+id/button"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:backgroundTint="#DBDBDB"
        android:textColor="#000000"
        android:text="선택 완료"/>

    <ImageView
        android:id="@+id/image"
        android:layout_width="200dp"
        android:layout_height="200dp" />
</LinearLayout>

```