액티비티와 인텐트

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안드로이드 4대 컴포넌트

▶ **액티비티**
   ▶ 화면을 구성하는 가장 기본적 컴포넌트

▶ **서비스**
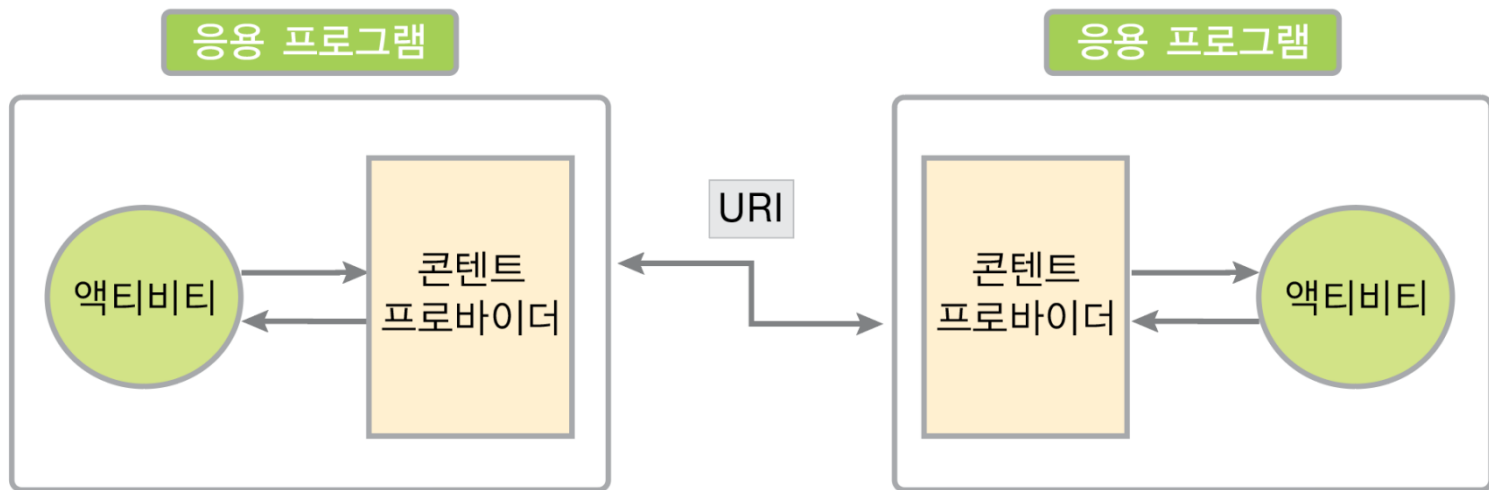   ▶ 서비스(Service)는 눈에 보이는 화면(액티비티)과 상관없이 백그라운드에서 동작하는 컴포넌트

▶ **브로드캐스트 리시버**
   ▶ 문자 메시지 도착, 배터리 방전, SD카드 탈부착, 네트워크 환경 변화 등의 방송 메시지가 발생하면 반응

▶

콘텐트 프로바이더

응용 프로그램 사이에 데이터를 상호 공유하기 위한 컴포넌트

액티비티

▶ **액티비티**

　　▶ 액티비티 하나당 화면을 하나씩 생성할 수 있는데, 일반적으로 액티비티 하나당 XML 파일 하나를 만들어서 사용

```
public class TestActivity extends Activity {
    @Override
    public void onCreate(Bundle savedInstanceState) {
    ~~~~ 중간 생략 ~~~~
```

액티비티 추가

```xml
<?xml version="1.0" encoding="utf-8"?>
<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" >

    <Button
        android:id="@+id/btnNewActivity"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="새 화면 열기" />

</LinearLayout>
```

Layout 추가

second.xml

```
activity_main.xml ×    second.xml ×    MainActivity.java ×

1        <?xml version="1.0" encoding="utf-8"?>
2   C  <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
3            xmlns:tools="http://schemas.android.com/tools"
4        android:layout_width="match_parent"
5        android:layout_height="match_parent"
6        android:background="#00FF00"
7        android:orientation="vertical" >
8
9        <Button
10           android:id="@+id/btnReturn"
11           android:layout_width="match_parent"
12           android:layout_height="wrap_content"
13           android:text="돌아가기" />
14
15   </LinearLayout>
```
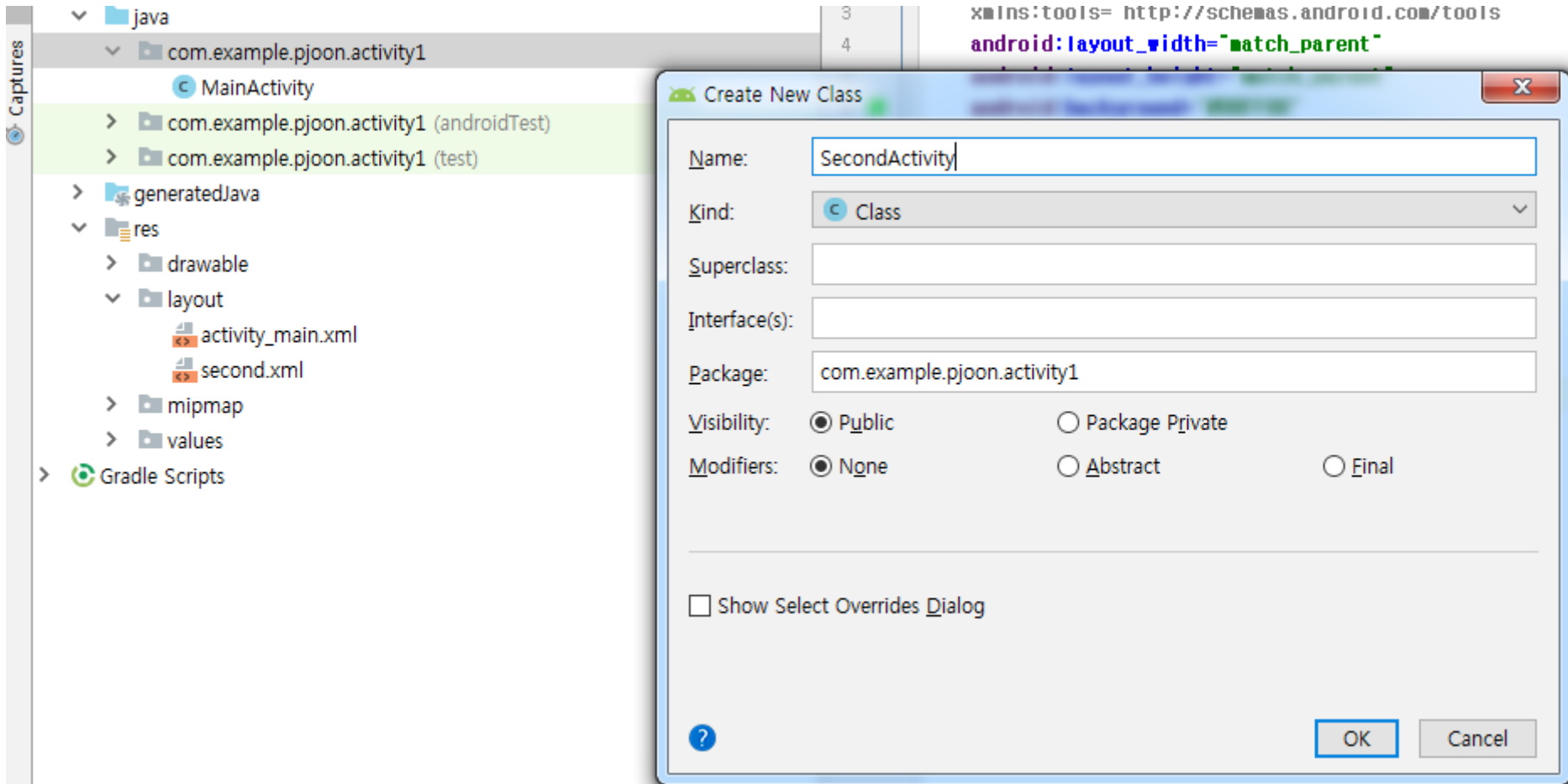
secondActivy 클래스 생성

activity_main.xml ×   second.xml ×   © SecondActivity.java ×

```
1    package com.example.pjoon.activity1;
2
3    import android.app.Activity;
4
5    public class SecondActivity extends Activity {
6
7
8    }
9
```

Select Methods to Override/Implement

↓% ↓a/z © I↑ ↑ ↓

- m ⚹ onActivityResult(requestCode:int, resultCode:int, data:Intent):void
- m ⚹ onApplyThemeResource(theme:Theme, resid:int, first:boolean):void
- m 🔒 onAttachedToWindow():void
- m 🔒 onAttachFragment(fragment:Fragment):void
- m 🔒 onBackPressed():void
- m ⚹ onChildTitleChanged(childActivity:Activity, title:CharSequence):void
- m 🔒 onConfigurationChanged(newConfig:Configuration):void
- m 🔒 onContentChanged():void
- m 🔒 onContextItemSelected(item:MenuItem):boolean
- m 🔒 onContextMenuClosed(menu:Menu):void
- **m ⚹ onCreate(savedInstanceState:Bundle):void**
- m 🔒 onCreate(savedInstanceState:Bundle, persistentState:PersistableBundle):void
- m 🔒 onCreateContextMenu(menu:ContextMenu, v:View, menuInfo:ContextMenuInfo
- m 🔒 onCreateDescription():CharSequence
- m ⚹ onCreateDialog(id:int):Dialog
- m ⚹ onCreateDialog(id:int, args:Bundle):Dialog
- m 🔒 onCreateNavigateUpTaskStack(builder:TaskStackBuilder):void
- m 🔒 onCreateOptionsMenu(menu:Menu):boolean
- m 🔒 onCreatePanelMenu(featureId:int, menu:Menu):boolean
- m 🔒 onCreatePanelView(featureId:int):View
- m 🔒 onCreateThumbnail(outBitmap:Bitmap, canvas:Canvas):boolean

☐ Copy JavaDoc

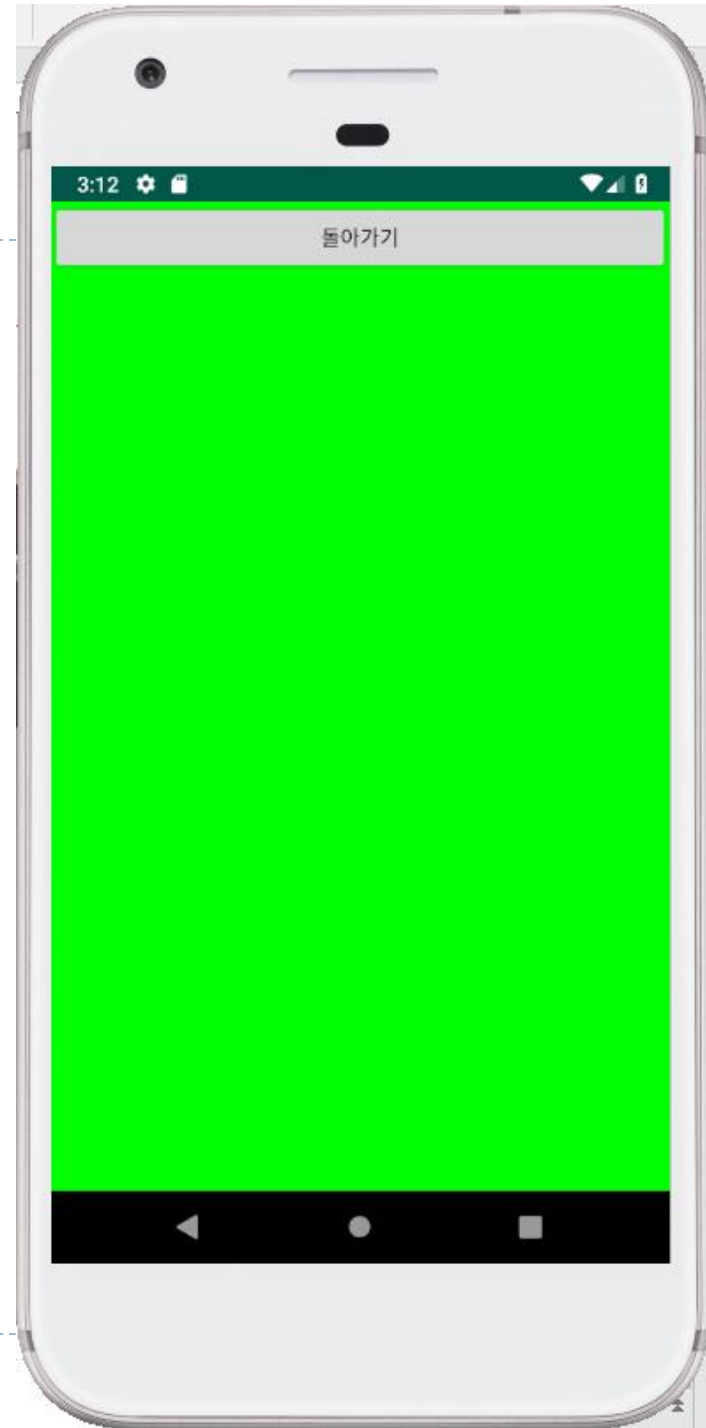☑ Insert @Override   OK   Cancel

▷

```java
8   public class SecondActivity extends Activity {

9

10      @Override
11      protected void onCreate(Bundle savedInstanceState) {
12          super.onCreate(savedInstanceState);
13          setContentView(R.layout.second);
14
15          setTitle("Second 액티비티");
16
17          Button btnReturn = (Button) findViewById(R.id.btnReturn);
18          btnReturn.setOnClickListener(new View.OnClickListener() {
19              public void onClick(View v) {
20                  finish();
21              }
22          });
23
24      }
25  }
26
```

```java
public class MainActivity extends AppCompatActivity {

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

        setTitle("메인 액티비티");

        Button btnNewActivity = (Button) findViewById(R.id.btnNewActivity);
        btnNewActivity.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Intent intent = new Intent( packageContext: MainActivity.this,SecondActivity.class);
                startActivity(intent);
            }
        });

    }
}
```
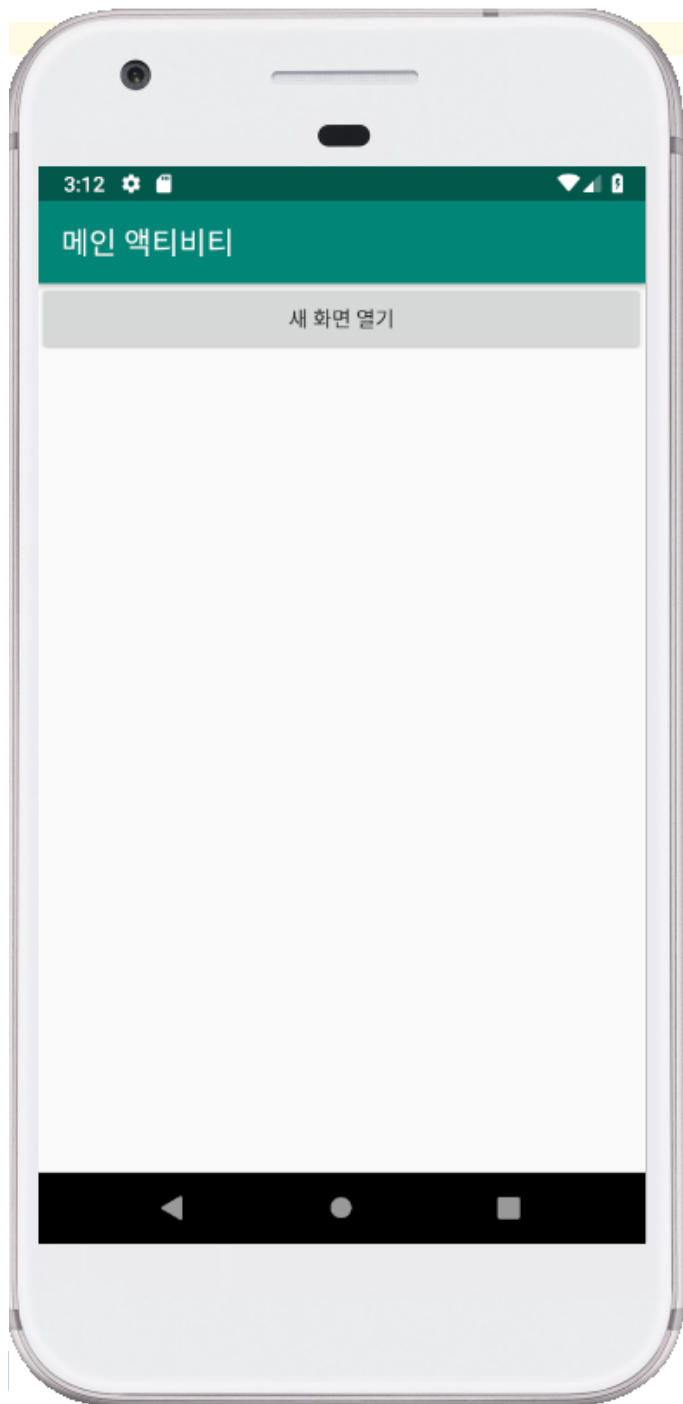
| activity_main.xml × | second.xml × | © SecondActivity.java × | © MainActivity.java × | AndroidManifest.xml × |

```xml
1  <?xml version="1.0" encoding="utf-8"?>
2  <manifest xmlns:android="http://schemas.android.com/apk/res/android"
3      package="com.example.pjoon.activity1">
4
5      <application
6          android:allowBackup="true"
7          android:icon="@mipmap/ic_launcher"
8          android:label="Activity1"
9          android:roundIcon="@mipmap/ic_launcher_round"
10         android:supportsRtl="true"
11         android:theme="@style/AppTheme">
12         <activity android:name=".MainActivity">
13             <intent-filter>
14                 <action android:name="android.intent.action.MAIN" />
15
16                 <category android:name="android.intent.category.LAUNCHER" />
17             </intent-filter>
18         </activity>
19         <activity android:name = ".SecondActivity" android:label ="Second 액티비티"/>
20     </application>
21
22  </manifest>
```

메인 액티비티

새 화면 열기

돌아가기

명시적 인텐트

‣ 다른 액티비티의 이름을 명확히 지정

```
Intent intent = new Intent(getApplicationContext(), SecondActivity.class);
startActivity(intent);
```

‣ 메인 액티비티에서 인텐트에 데이터를 실어서 넘긴 후, 세컨트 액티비티에서 받은 데이터를 처리하는 방식

Create Android Project

Application name

Vote_Test

Company domain

pjoon.example.com

Project location

C:\Users\pjoon\AndroidStudioProjects\Vote_Test

Package name

com.example.pjoon.vote_test

Edit

☐ **Include C++ support**

☐ **Include Kotlin support**

Previous | Next | Cancel | Finish

```xml
<?xml version="1.0" encoding="utf-8"?>
<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" >

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="3" >

        <ImageView
            android:id="@+id/iv1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="5dp"
            android:layout_weight="1"
            android:src="@drawable/pic1" />

        <ImageView
            android:id="@+id/iv2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="5dp"
            android:layout_weight="1"
            android:src="@drawable/pic2" />

        <ImageView
            android:id="@+id/iv3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="5dp"
            android:layout_weight="1"
            android:src="@drawable/pic3" />

    </LinearLayout>

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="3" >

        <ImageView
            android:id="@+id/iv4"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="5dp"
            android:layout_weight="1"
            android:src="@drawable/pic4" />

        <ImageView
            android:id="@+id/iv5"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="5dp"
            android:layout_weight="1"
            android:src="@drawable/pic5" />

        <ImageView
            android:id="@+id/iv6"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="5dp"
            android:layout_weight="1"
            android:src="@drawable/pic6" />

    </LinearLayout>
```

```xml
    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="0dp"
        android:layout_weight="3" >

        <ImageView
            android:id="@+id/iv7"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="5dp"
            android:layout_weight="1"
            android:src="@drawable/pic7" />

        <ImageView
            android:id="@+id/iv8"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="5dp"
            android:layout_weight="1"
            android:src="@drawable/pic8" />

        <ImageView
            android:id="@+id/iv9"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_margin="5dp"
            android:layout_weight="1"
            android:src="@drawable/pic9" />
    </LinearLayout>

        <Button
            android:id="@+id/btnResult"
            android:layout_width="match_parent"
            android:layout_height="0dp"
            android:layout_weight="1"
            android:text="투표 종료" />

</LinearLayout>
```
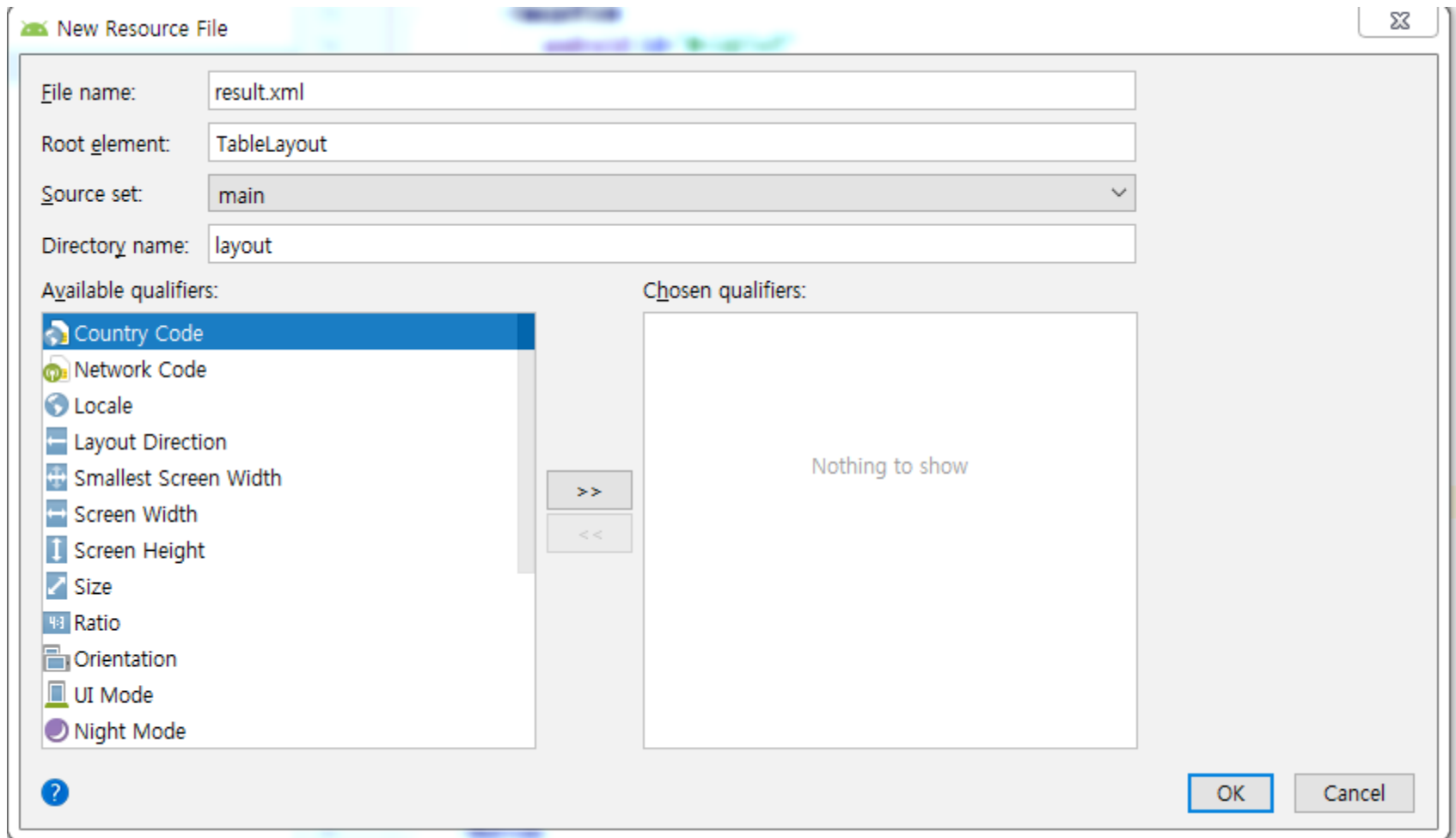
result.xml 생성

```xml
<?xml version="1.0" encoding="utf-8"?>
<TableLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:gravity="center_vertical"
    android:stretchColumns="0" >

    <TableRow>

        <TextView
            android:id="@+id/tv1"
            android:layout_gravity="center_vertical"
            android:text="그림1"
            android:textSize="15dp" />

        <RatingBar
            android:id="@+id/rbar1"
            style="?android:attr/ratingBarStyleIndicator"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="right" >
        </RatingBar>
    </TableRow>

    <TableRow>

        <TextView
            android:id="@+id/tv2"
            android:layout_gravity="center_vertical"
            android:text="그림2"
            android:textSize="15dp" />

        <RatingBar
            android:id="@+id/rbar2"
            style="?android:attr/ratingBarStyleIndicator"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="right" >
        </RatingBar>
    </TableRow>

    <TableRow>

        <TextView
            android:id="@+id/tv3"
            android:layout_gravity="center_vertical"
            android:text="그림3"
            android:textSize="15dp" />

        <RatingBar
            android:id="@+id/rbar3"
            style="?android:attr/ratingBarStyleIndicator"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="right" >
        </RatingBar>
    </TableRow>

    <TableRow>

        <TextView
            android:id="@+id/tv4"
            android:layout_gravity="center_vertical"
            android:text="그림4"
            android:textSize="15dp" />

        <RatingBar
            android:id="@+id/rbar4"
            style="?android:attr/ratingBarStyleIndicator"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_gravity="right" >
        </RatingBar>
    </TableRow>
```

```xml
76      <TableRow>
77
78          <TextView
79              android:id="@+id/tv5"
80              android:layout_gravity="center_vertical"
81              android:text="그림5"
82              android:textSize="15dp" />
83
84          <RatingBar
85              android:id="@+id/rbar5"
86              style="?android:attr/ratingBarStyleIndicator"
87              android:layout_width="match_parent"
88              android:layout_height="wrap_content"
89              android:layout_gravity="right" >
90          </RatingBar>
91      </TableRow>
92
93      <TableRow>
94
95          <TextView
96              android:id="@+id/tv6"
97              android:layout_gravity="center_vertical"
98              android:text="그림6"
99              android:textSize="15dp" />
100
101         <RatingBar
102             android:id="@+id/rbar6"
103             style="?android:attr/ratingBarStyleIndicator"
104             android:layout_width="match_parent"
105             android:layout_height="wrap_content"
106             android:layout_gravity="right" >
107         </RatingBar>
108     </TableRow>

110     <TableRow>
111
112         <TextView
113             android:id="@+id/tv7"
114             android:layout_gravity="center_vertical"
115             android:text="그림7"
116             android:textSize="15dp" />
117
118         <RatingBar
119             android:id="@+id/rbar7"
120             style="?android:attr/ratingBarStyleIndicator"
121             android:layout_width="match_parent"
122             android:layout_height="wrap_content"
123             android:layout_gravity="right" >
124         </RatingBar>
125     </TableRow>
126
127     <TableRow>
128
129         <TextView
130             android:id="@+id/tv8"
131             android:layout_gravity="center_vertical"
132             android:text="그림8"
133             android:textSize="15dp" />
134
135         <RatingBar
136             android:id="@+id/rbar8"
137             style="?android:attr/ratingBarStyleIndicator"
138             android:layout_width="match_parent"
139             android:layout_height="wrap_content"
140             android:layout_gravity="right" >
141         </RatingBar>
142     </TableRow>
143
```

```xml
        <TableRow>

            <TextView
                android:id="@+id/tv9"
                android:layout_gravity="center_vertical"
                android:text="그림9"
                android:textSize="15dp" />

            <RatingBar
                android:id="@+id/rbar9"
                style="?android:attr/ratingBarStyleIndicator"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:layout_gravity="right" >
            </RatingBar>
        </TableRow>

        <TableRow>

            <Button
                android:id="@+id/btnReturn"
                android:layout_width="wrap_content"
                android:layout_height="wrap_content"
                android:layout_span="2"
                android:text="돌아가기" />
        </TableRow>

</TableLayout>
```

ResultActivity.java 파일 생성
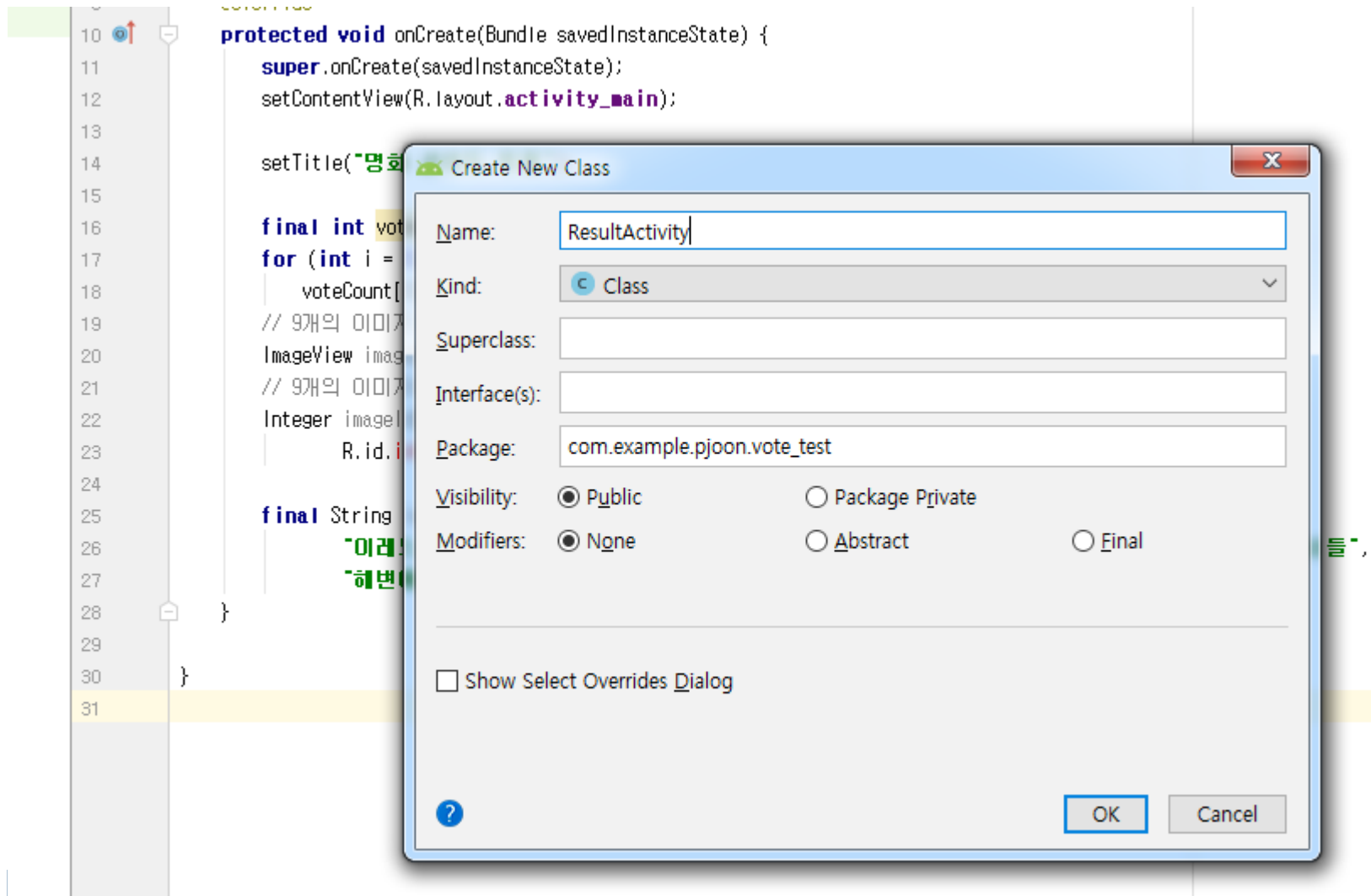
```java
package com.example.pjoon.vote_test;

import android.app.Activity;
import android.os.Bundle;

public class ResultActivity extends Activity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.result);
    }
}
```

Manifest 파일에 추가

```java
public class MainActivity extends AppCompatActivity {

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

        setTitle("명화 선호도 투표");

        final int voteCount[] = new int[9];
        for (int i = 0; i < 9; i++)
            voteCount[i] = 0;
        // 9개의 이미지 버튼 객체배열
        ImageView image[] = new ImageView[9];
        // 9개의 이미지버튼 ID 배열
        Integer imageId[] = { R.id.iv1, R.id.iv2, R.id.iv3, R.id.iv4, R.id.iv5,
                R.id.iv6, R.id.iv7, R.id.iv8, R.id.iv9 };

        final String imgName[] = { "독서하는 소녀", "꽃장식 모자 소녀", "부채를 든 소녀",
                "이레느깡 단 베르양", "잠자는 소녀", "테라스의 두 자매", "피아노 레슨", "피아노 앞의 소녀들",
                "해변에서" };
    }

}
```

```java
32
33          for (int i = 0; i < imageId.length; i++) {
34              final int index; // 주의! 꼭 필요함..
35              index = i;
36              image[index] = (ImageView) findViewById(imageId[index]);
37              image[index].setOnClickListener(new View.OnClickListener() {
38                  public void onClick(View v) {
39                      // TODO Auto-generated method stub
40                      // 투표수 증가.
41                      voteCount[index]++;
42                      Toast.makeText(getApplicationContext(),
43                              text: imgName[index] + ": 총 " + voteCount[index] + " 표",
44                              Toast.LENGTH_SHORT).show();
45                  }
46              });
47          }
48
49          Button btnFinish = (Button) findViewById(R.id.btnResult);
50          btnFinish.setOnClickListener(new View.OnClickListener() {
51              public void onClick(View v) {
52                  Intent intent = new Intent(getApplicationContext(),
53                          ResultActivity.class);
54                  intent.putExtra( name: "VoteCount", voteCount);
55                  intent.putExtra( name: "ImageName", imgName);
56                  startActivity(intent);
57              }
58          });
59
60      }
61
```

ResultActivity.java 코딩


```java
public class ResultActivity extends Activity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.result);

        setTitle("투표 결과");

        // 앞 화면에서 보낸 투표 결과 값을 받는다.
        Intent intent = getIntent();
        int[] voteResult = intent.getIntArrayExtra( name: "VoteCount");
        String[] imageName = intent.getStringArrayExtra( name: "ImageName");

        // 9개의 TextView, RatingBar 객체배열
        TextView tv[] = new TextView[imageName.length];
        RatingBar rbar[] = new RatingBar[imageName.length];

        // 9개의 TextView, RatingBar ID 배열
        Integer tvID[] = { R.id.tv1, R.id.tv2, R.id.tv3, R.id.tv4, R.id.tv5,
                R.id.tv6, R.id.tv7, R.id.tv8, R.id.tv9 };
        Integer rbarID[] = { R.id.rbar1, R.id.rbar2, R.id.rbar3, R.id.rbar4,
                R.id.rbar5, R.id.rbar6, R.id.rbar7, R.id.rbar8, R.id.rbar9 };
```

```java
33
34          // TextView, RatingBar 개체 찾기.
35          for (int i = 0; i < voteResult.length; i++) {
36              tv[i] = (TextView) findViewById(tvID[i]);
37              rbar[i] = (RatingBar) findViewById(rbarID[i]);
38          }
39
40          // 각 TextVeiw 및 RatingBar에 넘겨 받은 값을 반영.
41          for (int i = 0; i < voteResult.length; i++) {
42              tv[i].setText(imageName[i]);
43              rbar[i].setRating((float) voteResult[i]);
44          }
45
46          Button btnReturn = (Button) findViewById(R.id.btnReturn);
47          btnReturn.setOnClickListener(new View.OnClickListener() {
48              public void onClick(View v) {
49                  finish();
50
51              }
52          });
53
```
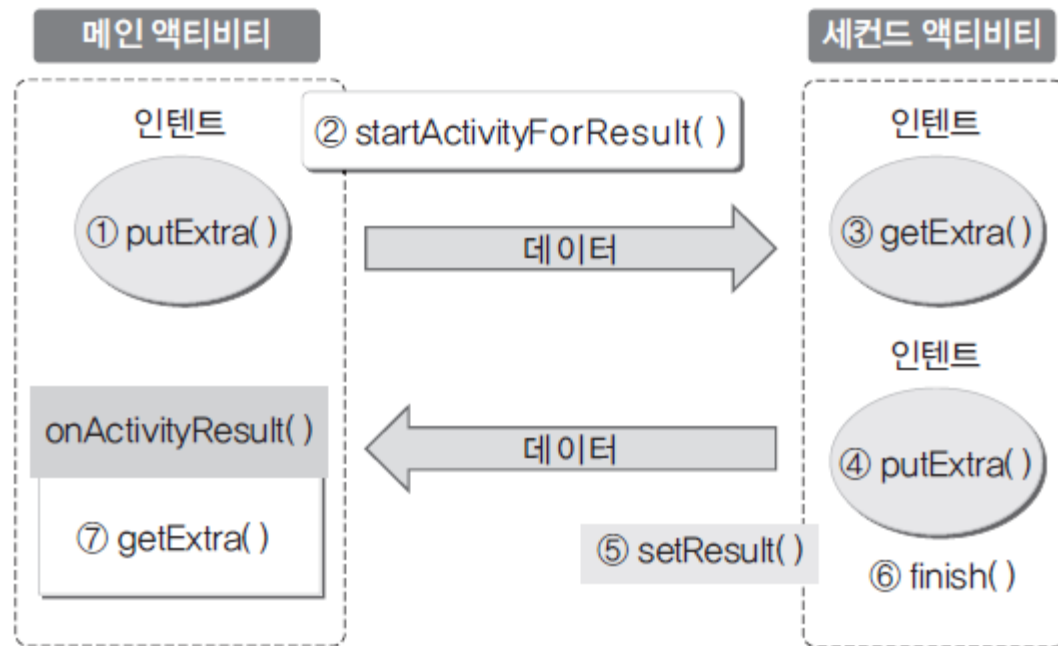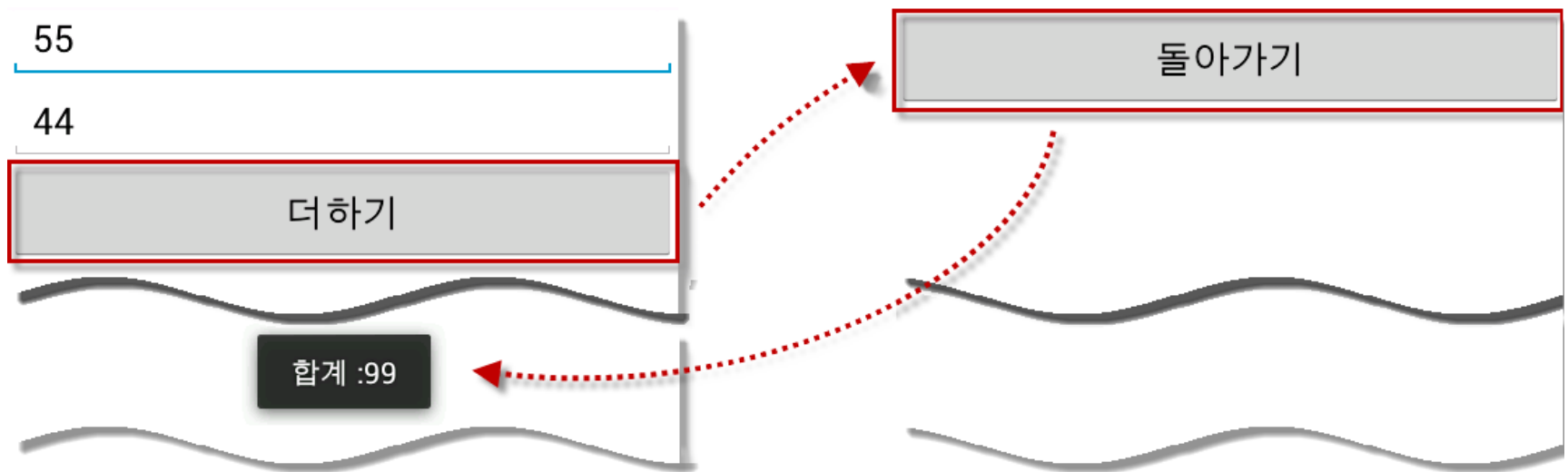
명화 선호도 투표

투표 종료

독서하는 소녀　　　★ ★ ★ ★ ★
꽃장식 모자 소녀　　★ ★ ★ ★ ★
부채를 든 소녀　　　★ ★ ★ ★ ★
이레느깡 단 베르양　★ ★ ★ ★ ★
잠자는 소녀　　　　★ ★ ★ ★ ★
테라스의 두 자매　　★ ★ ★ ★ ★
피아노 레슨　　　　★ ★ ★ ★ ★
피아노 앞의 소녀들　★ ★ ★ ★ ★
해변에서　　　　　　★ ★ ★ ★ ★

돌아가기

양방향 액티비티

▶ **양방향으로 데이터 전달**
  ▶ 메인 액티비티에서 세컨드 액티비티로 데이터를 넘긴 후에 다시 세컨드 액티비티에서 메인액티비티로 데이터를 돌려 주는 경우

▸ 메인 액티비티의 에디트텍스트의 두 수를 세컨드 액티비티에서 더한 후에 다시 메인 액티비티로 돌려주는 경우

Create New Project

Create Android Project

Application name

Activity_Test_3

Company domain

pjoon.example.com

Project location

C:\Users\pjoon\AndroidStudioProjects\Activity_Test_3

Package name

com.example.pjoon.activity_test_3   Edit

☐ **Include C++ support**

☐ **Include Kotlin support**

Previous   Next   Cancel   Finish
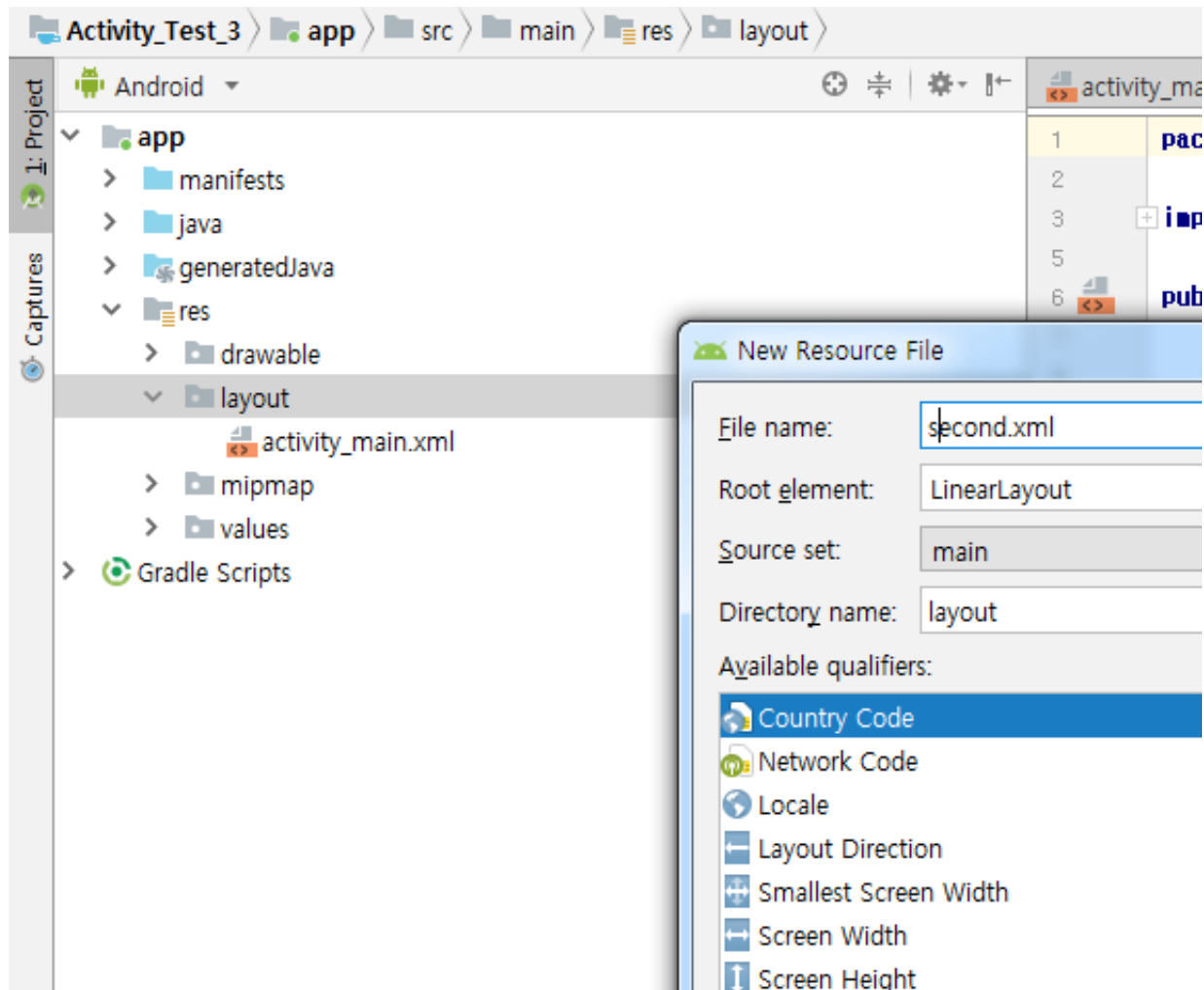
Activity Main. XML


```xml
activity_main.xml ×    © MainActivity.java ×    second.xml ×

1       <?xml version="1.0" encoding="utf-8"?>
2       <LinearLayout xmlns:android="http://schemas.android.com/apk/res/android
3           xmlns:tools="http://schemas.android.com/tools"
4           android:layout_width="fill_parent"
5           android:layout_height="fill_parent"
6           android:orientation="vertical" >
7
8           <EditText
9               android:id="@+id/edtNum1"
10              android:layout_width="match_parent"
11              android:layout_height="wrap_content">
12          </EditText>
13
14          <EditText
15              android:id="@+id/edtNum2"
16              android:layout_width="match_parent"
17              android:layout_height="wrap_content" />
18
19          <Button
20              android:id="@+id/btnNewActivity"
21              android:layout_width="match_parent"
22              android:layout_height="wrap_content"
23              android:text="더하기" />
24
25      </LinearLayout>
```

Second.XML


```xml
<?xml version="1.0" encoding="utf-8"?>
<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" >

    <Button
        android:id="@+id/btnReturn"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="돌아가기" />

</LinearLayout>
```

secondActivity.java 생성

```java
public class MainActivity extends AppCompatActivity {

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

        Button btnNewActivity = (Button) findViewById(R.id.btnNewActivity);
        btnNewActivity.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {

                EditText edtNum1 = (EditText) findViewById(R.id.edtNum1);
                EditText edtNum2 = (EditText) findViewById(R.id.edtNum2);

                Intent intent = new Intent(getApplicationContext(),secondActivity.class);
                intent.putExtra( name: "Num1",
                        Integer.parseInt(edtNum1.getText().toString()));
                intent.putExtra( name: "Num2",
                        Integer.parseInt(edtNum2.getText().toString()));
                startActivityForResult(intent, requestCode: 0);
            }
        });

    }

    @Override
    protected void onActivityResult(int requestCode, int resultCode, Intent data) {

        if (resultCode == RESULT_OK) {
            int hap = data.getIntExtra( name: "Hap", defaultValue: 0);
            Toast.makeText(getApplicationContext(), text: "합계 :" + hap,
                    Toast.LENGTH_SHORT).show();
        }
    }
}
```

secondActivity.java
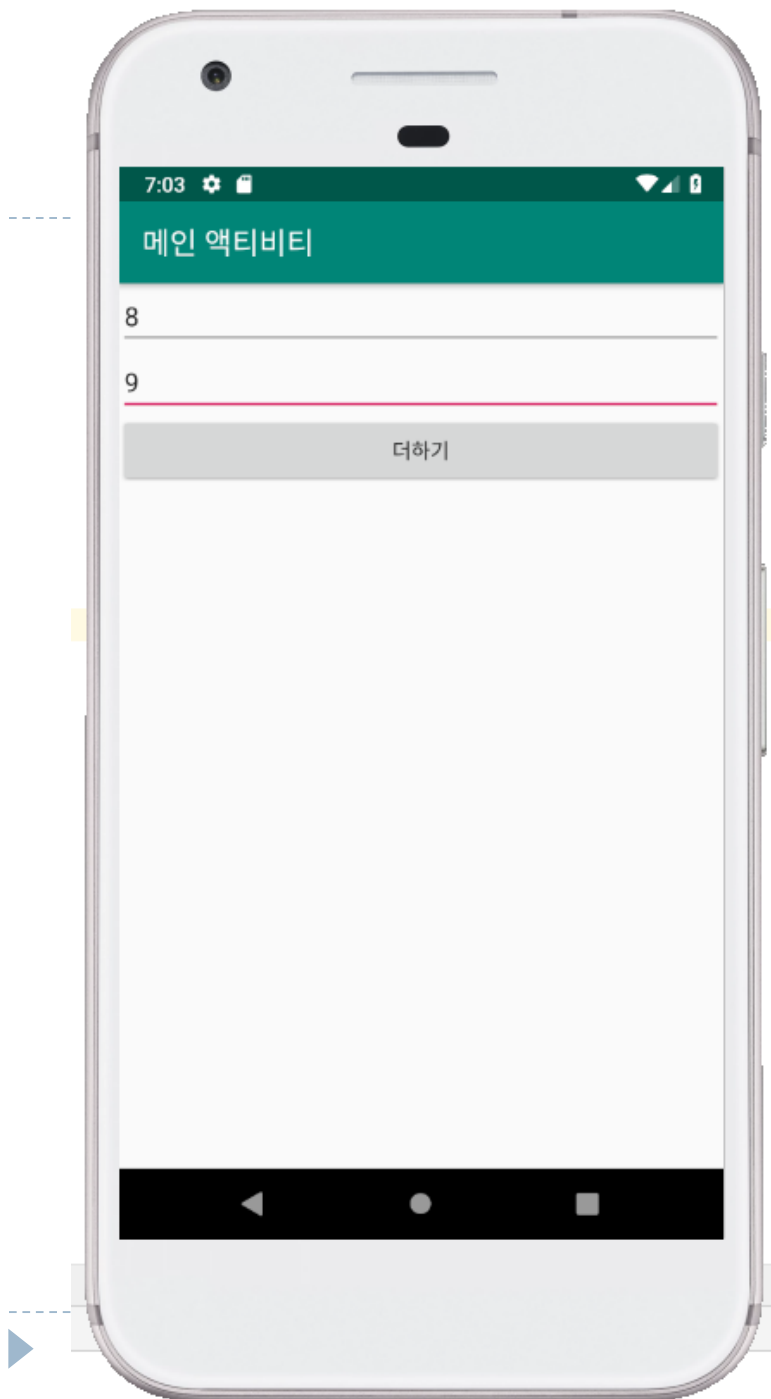
```java
public class secondActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {

        super.onCreate(savedInstanceState);
        setContentView(R.layout.second);
        setTitle("Second 액티비티");

        Intent inIntent = getIntent();
        final int hapValue = inIntent.getIntExtra( name: "Num1", defaultValue: 0)
                + inIntent.getIntExtra( name: "Num2", defaultValue: 0);

        Button btnReturn = (Button) findViewById(R.id.btnReturn);
        btnReturn.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Intent outIntent = new Intent(getApplicationContext(),
                        MainActivity.class);
                outIntent.putExtra( name: "Hap", hapValue);
                setResult(RESULT_OK, outIntent);
                finish();
            }
        });
    }

}
```

Manifest


```xml
activity_main.xml ×    AndroidManifest.xml ×    MainActivity.java ×    secondActivity.java ×    second.xml ×

1   <?xml version="1.0" encoding="utf-8"?>
2   <manifest xmlns:android="http://schemas.android.com/apk/res/android"
3       package="com.example.pjoon.activity_test_3">
4
5       <application
6           android:allowBackup="true"
7           android:icon="@mipmap/ic_launcher"
8           android:label="Activity_Test_3"
9           android:roundIcon="@mipmap/ic_launcher_round"
10          android:supportsRtl="true"
11          android:theme="@style/AppTheme">
12          <activity android:name=".MainActivity">
13              <intent-filter>
14                  <action android:name="android.intent.action.MAIN" />
15
16                  <category android:name="android.intent.category.LAUNCHER" />
17              </intent-filter>
18          </activity>
19
20          <activity android:name=".secondActivity" android:label="결과창" />
21
22      </application>
23
24  </manifest>
```

암시적 인텐트

▸ 암시적 인텐트의 개념은 약속된 액션(Action)을 지정
하여 안드로이드에서 제공하는 기존 응용 프로그램을
실행하는것

　▸ 예로 전화번호를 인텐트로 넘기면 전화 걸기 응용 프로그
램이 실행됨
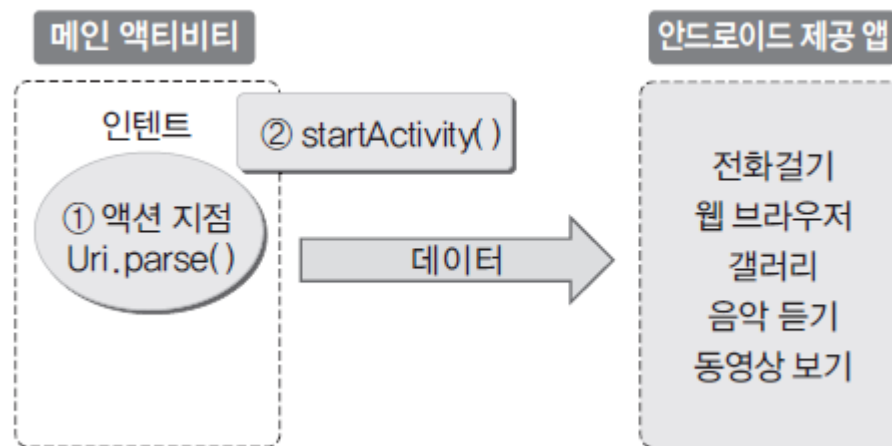
응급 전화를 거는 형식의 예

```java
Intent intent = new Intent(Intent.ACTION_DIAL, Uri.parse("tel:/911"));
startActivity(intent);
```

전화 걸기는 아래와 같은 권한 추가

```xml
<uses-permission android:name="android.permission.CALL_PHONE"/>
<uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION"/>
<uses-permission android:name="android.permission.ACCESS_FINE_LOCATION"/>
```

Create New Project

Create Android Project

Application name

Intent_Test

Company domain

pjoon.example.com

Project location

C:\Users\pjoon\AndroidStudioProjects\Intent_Test

Package name

com.example.pjoon.intent_test

Edit

☐ Include C++ support

☐ Include Kotlin support

Previous | Next | Cancel | Finish

```xml
<?xml version="1.0" encoding="utf-8"?>
<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" >

    <Button
        android:id="@+id/btnDial"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="전화 걸기" />

    <Button
        android:id="@+id/btnWeb"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="홈 페이지 열기" />

    <Button
        android:id="@+id/btnGoogle"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="구글 맵 열기" />

    <Button
        android:id="@+id/btnSearch"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="구글 검색하기" />

    <Button
        android:id="@+id/btnSms"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="문자 보내기" />

    <Button
        android:id="@+id/btnPhoto"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="사진 보기" />

</LinearLayout>
```

Manifest 파일


```
activity_main.xml    C MainActivity.java    AndroidManifest.xml

1   <?xml version="1.0" encoding="utf-8"?>
2   <manifest xmlns:android="http://schemas.android.com/apk/res/android"
3       package="com.example.pjoon.intent_test">
4
5       <uses-permission android:name="android.permission.CALL_PHONE" />
6       <uses-permission android:name="android.permission.ACCESS_COARSE_LOCATION" />
7       <uses-permission android:name="android.permission.ACCESS_FINE_LOCATION" />
8
9
10      <application
11          android:allowBackup="true"
12          android:icon="@mipmap/ic_launcher"
13          android:label="Intent_Test"
14          android:roundIcon="@mipmap/ic_launcher_round"
15          android:supportsRtl="true"
16          android:theme="@style/AppTheme">
17          <activity android:name=".MainActivity">
18              <intent-filter>
19                  <action android:name="android.intent.action.MAIN" />
20
21                  <category android:name="android.intent.category.LAUNCHER" />
22              </intent-filter>
23          </activity>
24      </application>
25
26  </manifest>
```

```java
public class MainActivity extends AppCompatActivity {

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

        setTitle("암시적 인텐트 예제");

        Button btnDial = (Button) findViewById(R.id.btnDial);
        Button btnWeb = (Button) findViewById(R.id.btnWeb);
        Button btnGoogle = (Button) findViewById(R.id.btnGoogle);
        Button btnSearch = (Button) findViewById(R.id.btnSearch);
        Button btnSms = (Button) findViewById(R.id.btnSms);
        Button btnPhoto = (Button) findViewById(R.id.btnPhoto);

        btnDial.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Uri uri = Uri.parse("tel:010-1234-5678");
                Intent intent = new Intent(Intent.ACTION_DIAL, uri);
                startActivity(intent);
            }
        });

        btnWeb.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Uri uri = Uri.parse("http://www.dongseo.ac.kr");
                Intent intent = new Intent(Intent.ACTION_VIEW, uri);
                startActivity(intent);
            }
        });
```

```java
        btnGoogle.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Uri uri = Uri.parse("http://maps.google.com/maps?q="
                        + 37.554264 + "," + 126.913598);
                Intent intent = new Intent(Intent.ACTION_VIEW, uri);
                startActivity(intent);
            }
        });

        btnSearch.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Intent intent = new Intent(Intent.ACTION_WEB_SEARCH);
                intent.putExtra(SearchManager.QUERY, value: "안드로이드");
                startActivity(intent);
            }
        });

        btnSms.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Intent intent = new Intent(Intent.ACTION_SENDTO);
                intent.putExtra( name: "sms_body", value: "안녕하세요");
                intent.setData(Uri.parse("smsto:" + Uri.encode( s: "010-1234-4567")));
                startActivity(intent);
            }
        });

        btnPhoto.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Intent intent = new Intent(MediaStore. ACTION_IMAGE_CAPTURE);
                startActivity(intent);
            }
        });
```
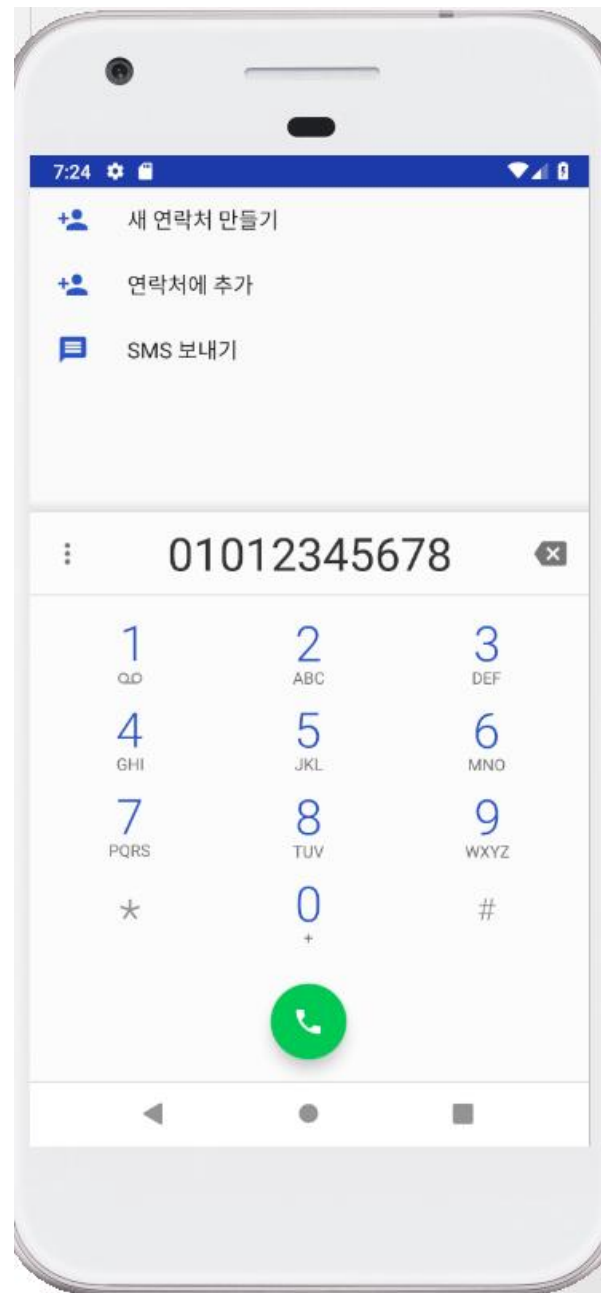
액티비티 생명주기

▶ **생명주기**

  ▶ 액티비티의 생성부터 소멸까지의 주기

    ▶ 안드로이드 응용 프로그램은 PC용과 달리 화면이 작으므로 동시에 여러 개의 액티비티(화면)가 나올 수 없다.

    ▶ 응용 프로그램이 여러 개의 액티비티로 작성되어 있다면 앞에 나오는 화면하나만 활성화된 상태며, 나머지는 모두 비활성화된 상태로 남게 된다.

    ▶ 비활성화된 액티비티가 다시 앞으로 나오면 앞에 있던 액티비티는 비활성화가 된다
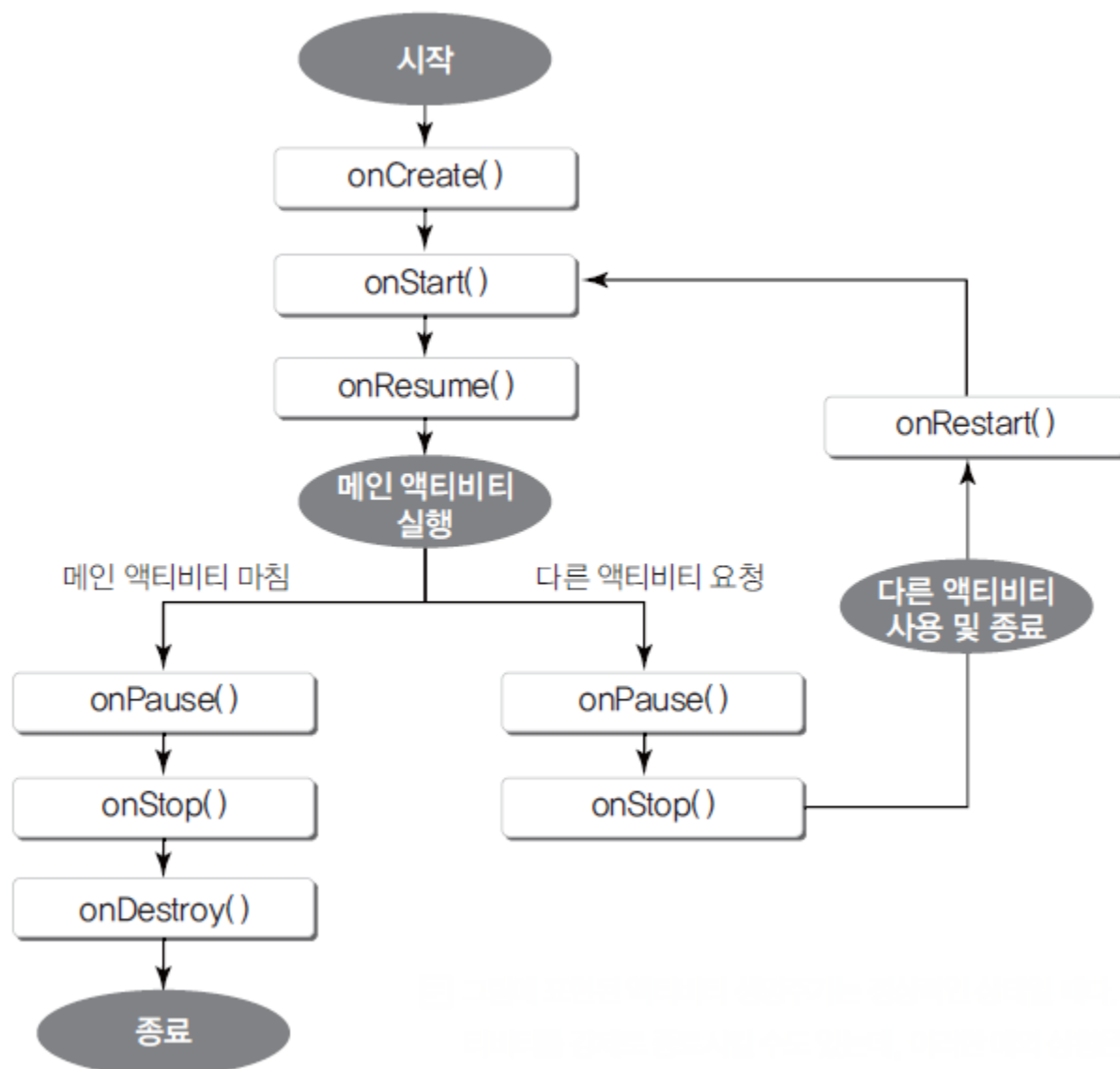
로그캣을 이용한 액티비티 생명 주기

▶ 로그캣 (Logcat)
  ▶ 안드로이드는 android.util.Log 클래스로 로그 기록
  ▶ 로그캣을 통해 로그 확인

Create Android Project

Application name

Logcat_Test

Company domain

pjoon.example.com

Project location

C:\Users\pjoon\AndroidStudioProjects\Logcat_Test

Package name

com.example.pjoon.logcat_test

Edit

☐ **Include C++ support**

☐ **Include Kotlin support**

Previous | Next | Cancel | Finish

```xml
<?xml version="1.0" encoding="utf-8"?>
<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" >

    <Button
        android:id="@+id/btnDial"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="전화걸기" />

    <Button
        android:id="@+id/btnFinish"
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="끝내기" />

</LinearLayout>
```

```java
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        setTitle("액티비티 테스트 예제");
        android.util.Log.i( tag: "액티비티 테스트",  msg: "onCreate()");

        Button btnDial = (Button) findViewById(R.id.btnDial);
        btnDial.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                Uri uri = Uri.parse("tel:010-1234-5678");
                Intent intent = new Intent(Intent.ACTION_DIAL, uri);
                startActivity(intent);
            }
        });

        Button btnFinish = (Button) findViewById(R.id.btnFinish);
        btnFinish.setOnClickListener(new View.OnClickListener() {
            public void onClick(View v) {
                finish();
            }
        });
```

```java
        @Override
    protected void onDestroy() {
        super.onDestroy();
        android.util.Log.i( tag: "액티비티 테스트",  msg: "onDestroy()");
    }

        @Override
    protected void onPause() {
        super.onPause();
        android.util.Log.i( tag: "액티비티 테스트",  msg: "onPause()");
    }

        @Override
    protected void onRestart() {
        super.onRestart();
        android.util.Log.i( tag: "액티비티 테스트",  msg: "onRestart()");
    }

        @Override
    protected void onResume() {
        super.onResume();
        android.util.Log.i( tag: "액티비티 테스트",  msg: "onResume()");
    }

        @Override
    protected void onStart() {
        super.onStart();
        android.util.Log.i( tag: "액티비티 테스트",  msg: "onStart()");
    }

        @Override
    protected void onStop() {
        super.onStop();
        android.util.Log.i( tag: "액티비티 테스트",  msg: "onStop()");
    }
```

No connected devices ▼   No debuggable processes ▼   Verbose ▼   Q▾   ☑ Regex   Edit Filter Configuration ▼

Create New Logcat Filter   ⌧

＋ －   Filter Name: Unnamed-0

Unnamed-0   Specify one or several filtering parameters:

                 Log Tag: Q▾   ☑ Regex

                 Log Message: Q▾   ☑ Regex

                 Package Name: Q▾   ☑ Regex

                 PID:

                 Log Level: Verbose ▼

                                    OK   Cancel

🤖 Create New Logcat Filter   ⌧

＋ －   Filter Name: 액티비티

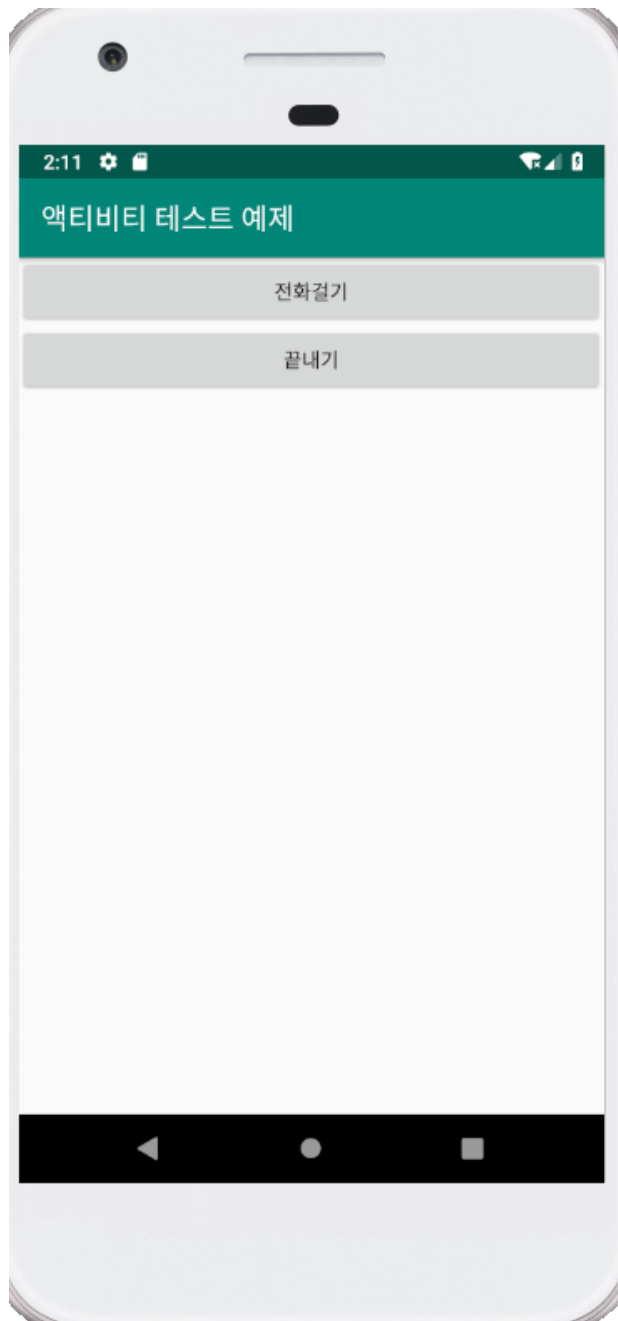액티비티   Specify one or several filtering parameters:

                     Log Tag: Q▾ 액티비티   ⊗   ☑ Regex

                     Log Message: Q▾   ☑ Regex

                     Package Name: Q▾   ☑ Regex

                     PID:

                     Log Level: Verbose   ▼

                                          OK   Cancel

▶

액티비티 테스트 예제

전화걸기

끝내기

ator Pixel_4 Andr ∨ | com.example.pjoon.logca ∨ | Verbose ∨ | Q▾

-28 11:09:50.685 14022-14022/com.example.pjoon.logcat_test I/액티비티 테스트: onCreate()
-28 11:09:50.713 14022-14022/com.example.pjoon.logcat_test I/액티비티 테스트: onStart()
-28 11:09:50.714 14022-14022/com.example.pjoon.logcat_test I/액티비티 테스트: onResume()
-28 11:09:56.809 14022-14022/com.example.pjoon.logcat_test I/액티비티 테스트: onPause()
-28 11:09:57.937 14022-14022/com.example.pjoon.logcat_test I/액티비티 테스트: onStop()