

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

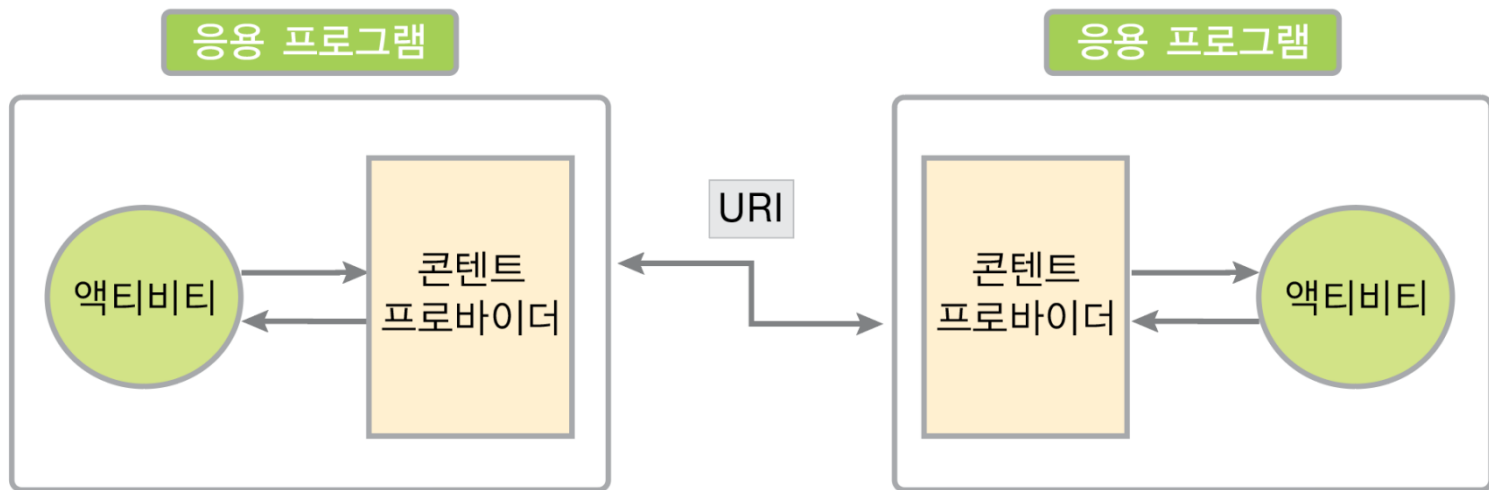
▶ 브로드캐스트 리시버

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



▶ 콘텐츠 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

Create New Project



Create Android Project

Application name

Company domain

Project location

 ...

Package name

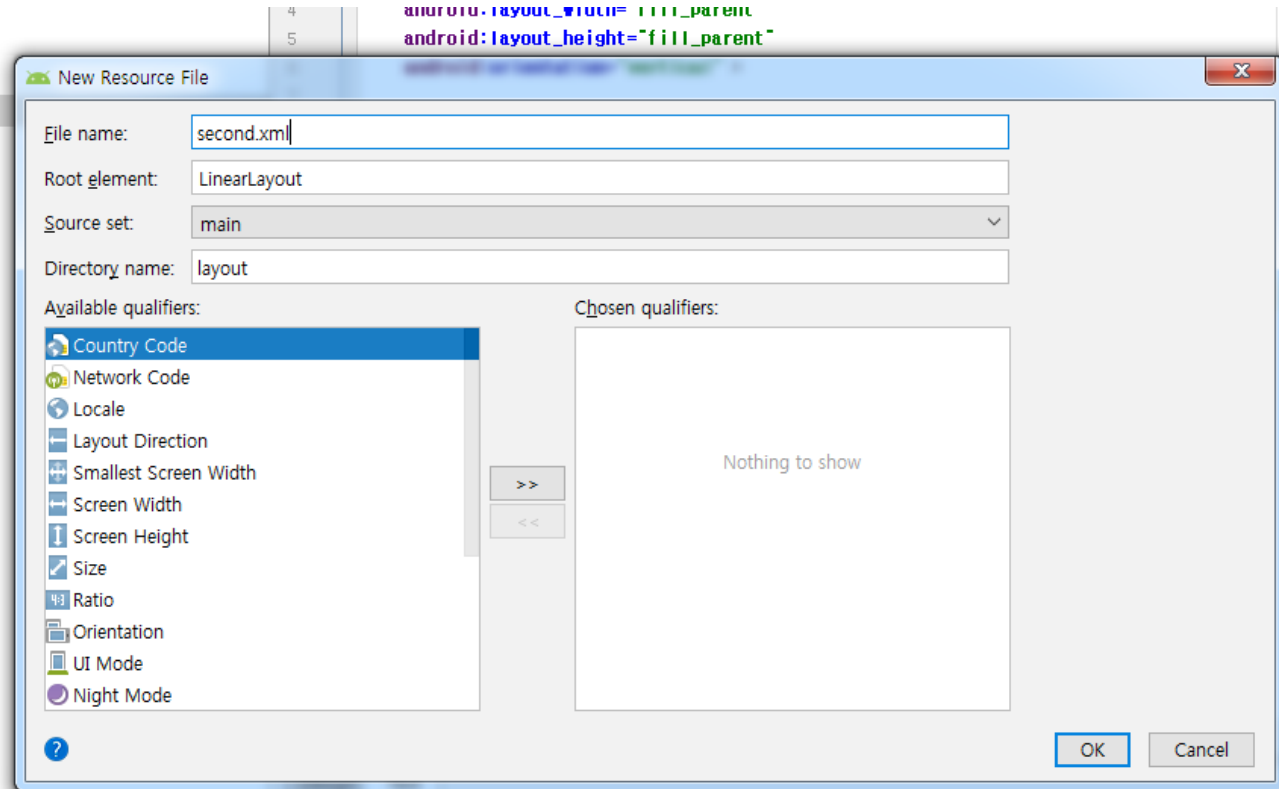
☐ Include C++ support

☐ Include Kotlin support

```
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     <Button
9         android:id="@+id/btnNewActivity"
10        android:layout_width="match_parent"
11        android:layout_height="wrap_content"
12        android:text="새 화면 열기" />
13
14 </LinearLayout>
```

Layout 추가

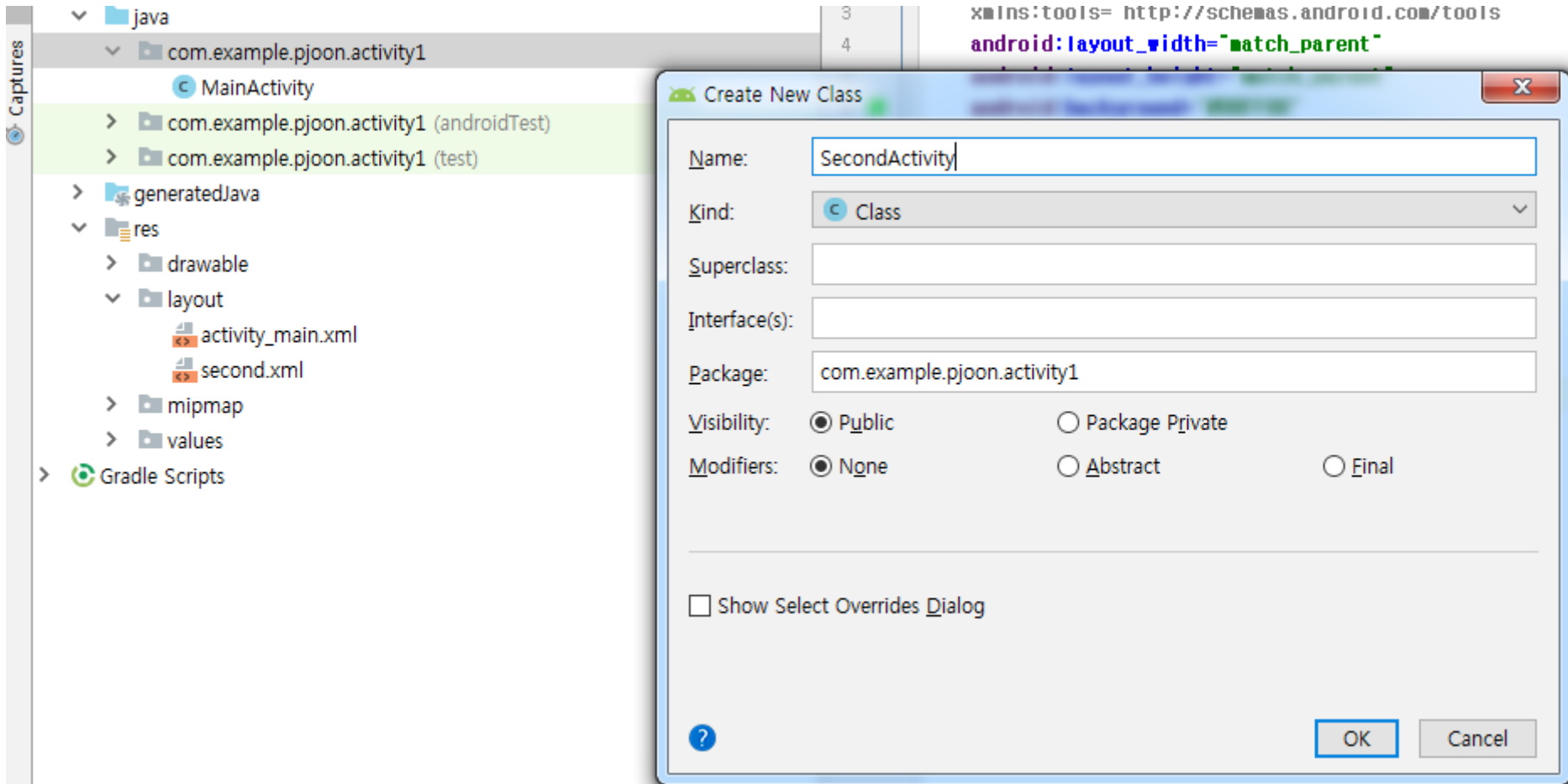
- > generatedJava
- ▼ res
 - > drawable
 - > layout
 - > mipmap
 - > values
- ▶ Gradle Scripts



second.xml

```
activity_main.xml x second.xml x MainActivity.java x
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="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



```
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

⌂

↶

⌵

≡

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

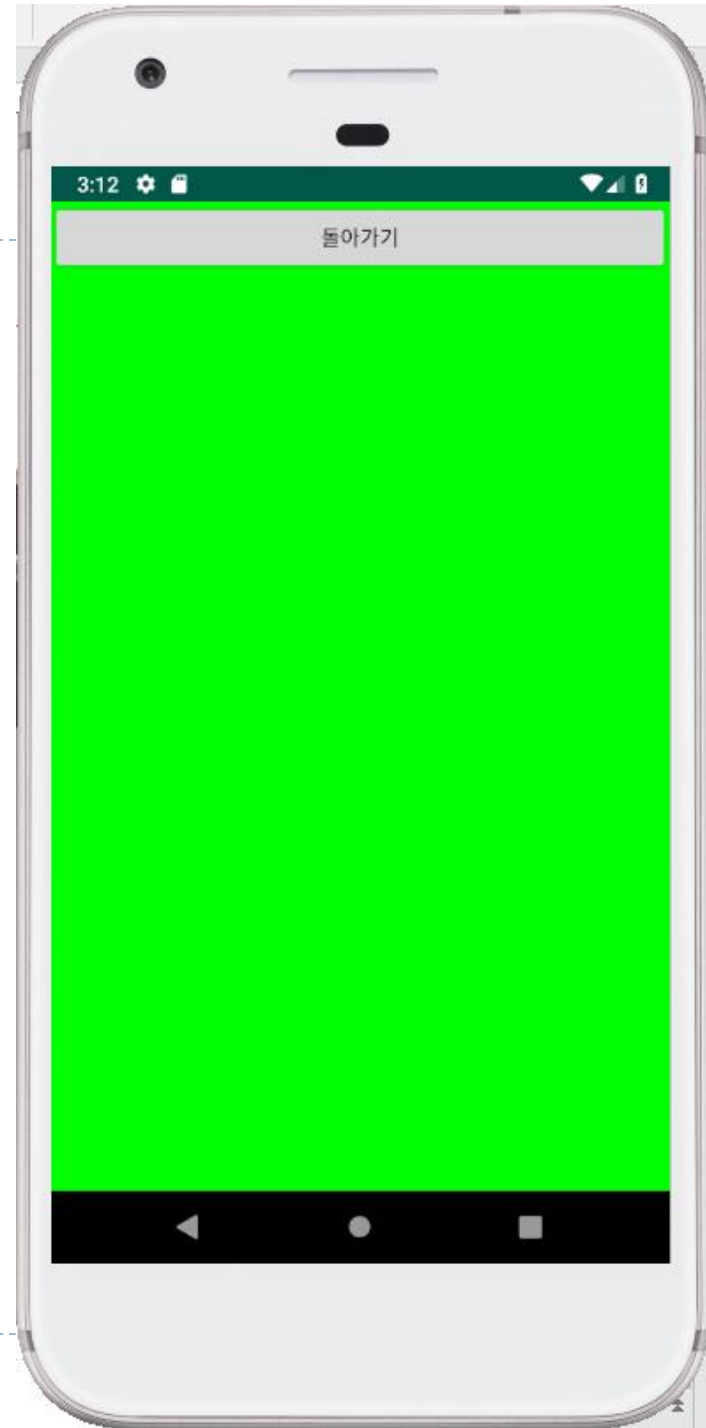
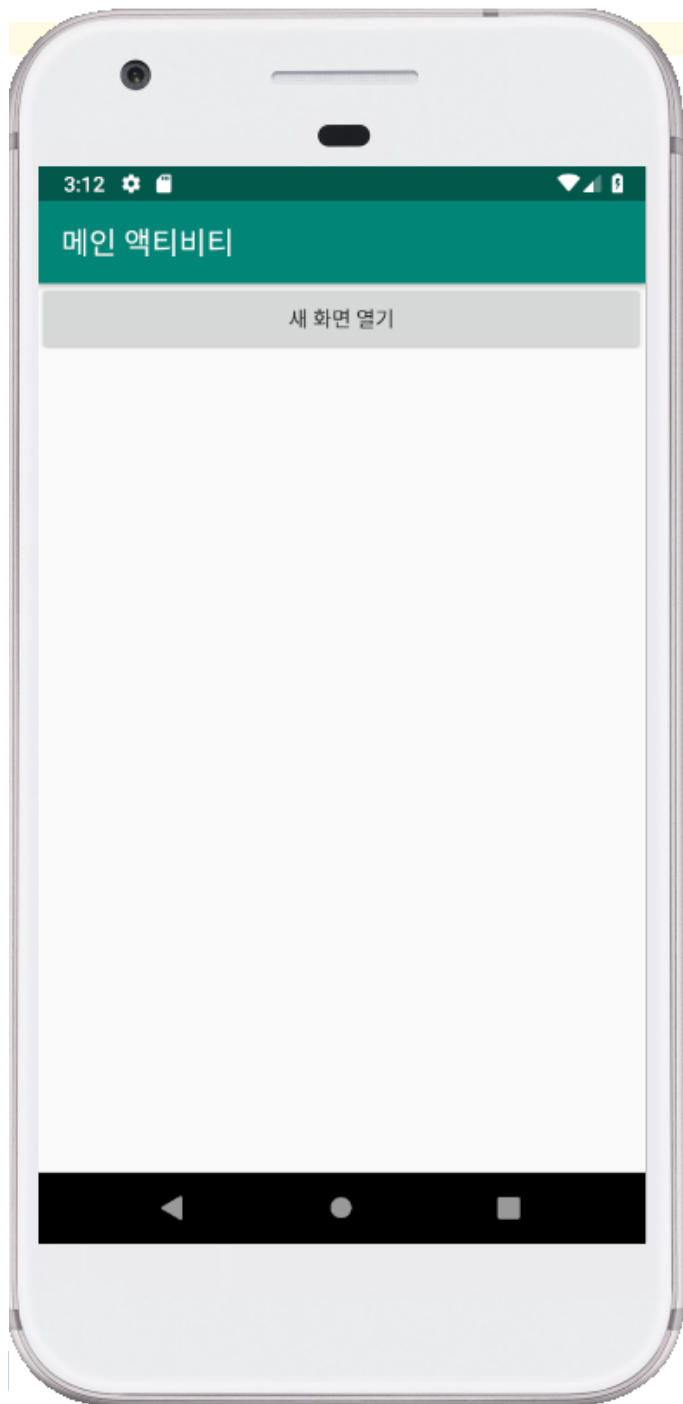
OK

Cancel

```
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
```

```
9  public class MainActivity extends AppCompatActivity {  
10  
11      @Override  
12      protected void onCreate(Bundle savedInstanceState) {  
13          super.onCreate(savedInstanceState);  
14          setContentView(R.layout.activity_main);  
15  
16          setTitle("메인 액티비티");  
17  
18          Button btnNewActivity = (Button) findViewById(R.id.btnNewActivity);  
19          btnNewActivity.setOnClickListener(new View.OnClickListener() {  
20              public void onClick(View v) {  
21                  Intent intent = new Intent( packageContext MainActivity.this, SecondActivity.class);  
22                  startActivity(intent);  
23              }  
24          });  
25  
26      }  
27  }  
28
```

```
activity_main.xml x second.xml x SecondActivity.java x MainActivity.java x AndroidManifest.xml x
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:supportRtl="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>
```

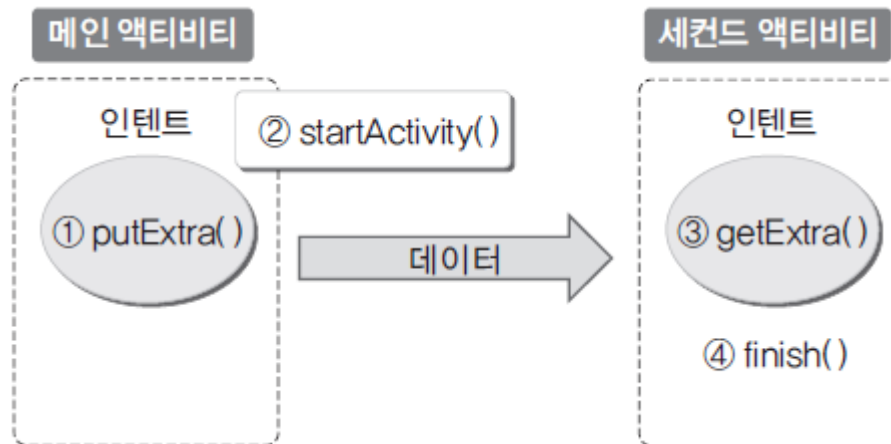


명시적 인텐트

▶ 다른 액티비티의 이름을 명확히 지정

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

▶ 메인 액티비티에서 인텐트에 데이터를 실어서 넘긴 후, 세컨드 액티비티에서 받은 데이터를 처리하는 방식





Create Android Project

Application name

Company domain

Project location



Package name

☐ Include C++ support☐ Include Kotlin support


```

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   <LinearLayout
9     android:layout_width="match_parent"
10    android:layout_height="0dp"
11    android:layout_weight="3" >
12
13    <ImageView
14      android:id="@+id/iv1"
15      android:layout_width="wrap_content"
16      android:layout_height="wrap_content"
17      android:layout_margin="5dp"
18      android:layout_weight="1"
19      android:src="@drawable/pic1" />
20
21    <ImageView
22      android:id="@+id/iv2"
23      android:layout_width="wrap_content"
24      android:layout_height="wrap_content"
25      android:layout_margin="5dp"
26      android:layout_weight="1"
27      android:src="@drawable/pic2" />
28
29    <ImageView
30      android:id="@+id/iv3"
31      android:layout_width="wrap_content"
32      android:layout_height="wrap_content"
33      android:layout_margin="5dp"
34      android:layout_weight="1"
35      android:src="@drawable/pic3" />
36  </LinearLayout>

```

```

38 <LinearLayout
39   android:layout_width="match_parent"
40   android:layout_height="0dp"
41   android:layout_weight="3" >
42
43   <ImageView
44     android:id="@+id/iv4"
45     android:layout_width="wrap_content"
46     android:layout_height="wrap_content"
47     android:layout_margin="5dp"
48     android:layout_weight="1"
49     android:src="@drawable/pic4" />
50
51   <ImageView
52     android:id="@+id/iv5"
53     android:layout_width="wrap_content"
54     android:layout_height="wrap_content"
55     android:layout_margin="5dp"
56     android:layout_weight="1"
57     android:src="@drawable/pic5" />
58
59   <ImageView
60     android:id="@+id/iv6"
61     android:layout_width="wrap_content"
62     android:layout_height="wrap_content"
63     android:layout_margin="5dp"
64     android:layout_weight="1"
65     android:src="@drawable/pic6" />
66 </LinearLayout>
67

```

```

68 <LinearLayout
69     android:layout_width="match_parent"
70     android:layout_height="0dp"
71     android:layout_weight="3" >
72
73     <ImageView
74         android:id="@+id/iv7"
75         android:layout_width="wrap_content"
76         android:layout_height="wrap_content"
77         android:layout_margin="5dp"
78         android:layout_weight="1"
79         android:src="@drawable/pic7" />
80
81     <ImageView
82         android:id="@+id/iv8"
83         android:layout_width="wrap_content"
84         android:layout_height="wrap_content"
85         android:layout_margin="5dp"
86         android:layout_weight="1"
87         android:src="@drawable/pic8" />
88
89     <ImageView
90         android:id="@+id/iv9"
91         android:layout_width="wrap_content"
92         android:layout_height="wrap_content"
93         android:layout_margin="5dp"
94         android:layout_weight="1"
95         android:src="@drawable/pic9" />
96 </LinearLayout>

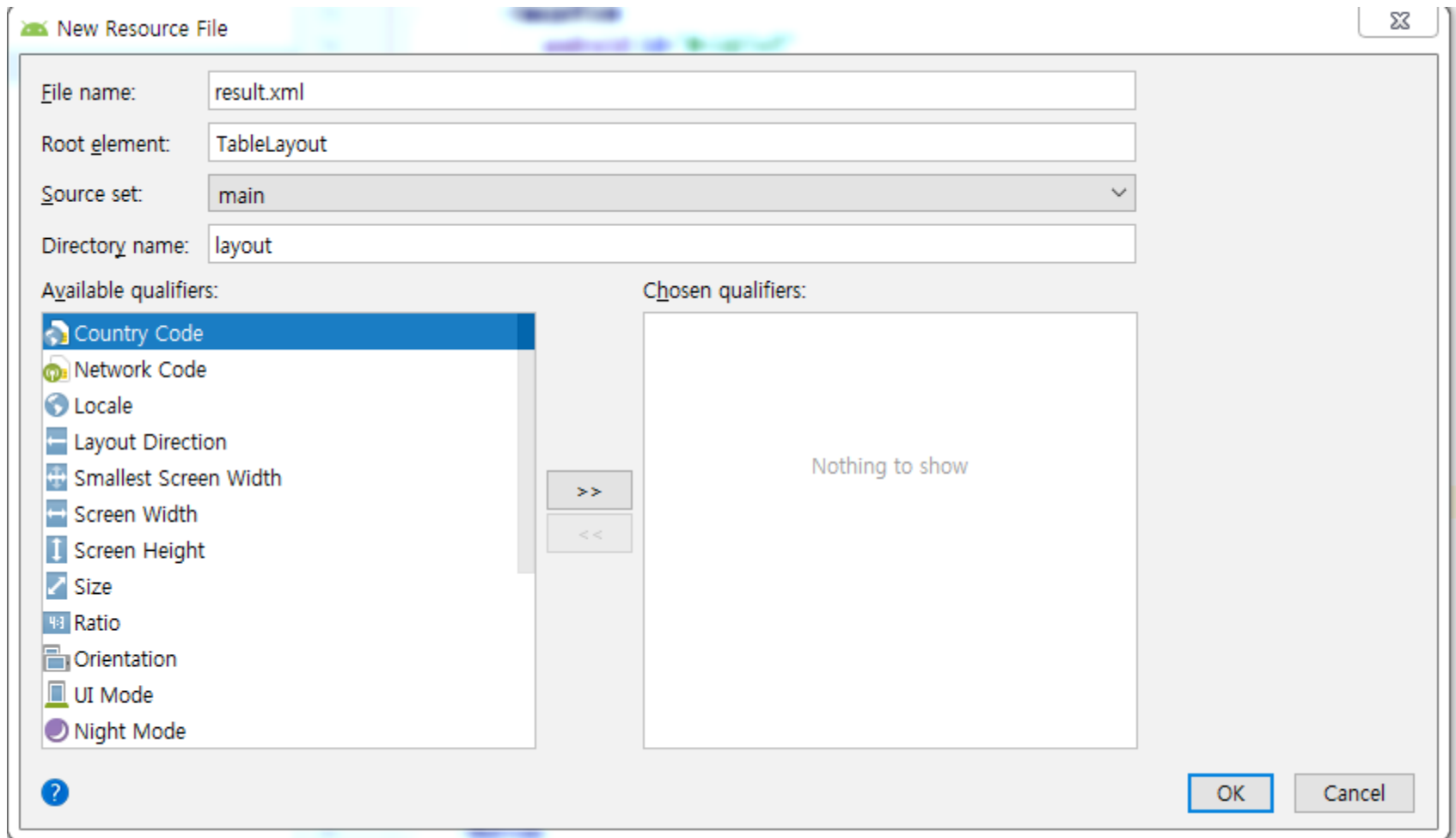
```

```

97
98
99 <Button
100     android:id="@+id/btnResult"
101     android:layout_width="match_parent"
102     android:layout_height="0dp"
103     android:layout_weight="1"
104     android:text="투표 종료" />
105 </LinearLayout>

```

result.xml 생성



```

1 <?xml version="1.0" encoding="utf-8"?>
2 <TableLayout xmlns:android="http://schemas.android.com/apk/res/android"
3     android:layout_width="match_parent"
4     android:layout_height="match_parent"
5     android:gravity="center_vertical"
6     android:stretchColumns="0" >
7
8     <TableRow>
9
10         <TextView
11             android:id="@+id/tv1"
12             android:layout_gravity="center_vertical"
13             android:text="그림1"
14             android:textSize="15dp" />
15
16         <RatingBar
17             android:id="@+id/rbar1"
18             style="?android:attr/ratingBarStyleIndicator"
19             android:layout_width="match_parent"
20             android:layout_height="wrap_content"
21             android:layout_gravity="right" >
22         </RatingBar>
23     </TableRow>
24
25     <TableRow>
26
27         <TextView
28             android:id="@+id/tv2"
29             android:layout_gravity="center_vertical"
30             android:text="그림2"
31             android:textSize="15dp" />
32
33         <RatingBar
34             android:id="@+id/rbar2"
35             style="?android:attr/ratingBarStyleIndicator"
36             android:layout_width="match_parent"
37             android:layout_height="wrap_content"
38             android:layout_gravity="right" >
39         </RatingBar>
40     </TableRow>

```

```

41
42 <TableRow>
43
44     <TextView
45         android:id="@+id/tv3"
46         android:layout_gravity="center_vertical"
47         android:text="그림3"
48         android:textSize="15dp" />
49
50     <RatingBar
51         android:id="@+id/rbar3"
52         style="?android:attr/ratingBarStyleIndicator"
53         android:layout_width="match_parent"
54         android:layout_height="wrap_content"
55         android:layout_gravity="right" >
56     </RatingBar>
57 </TableRow>
58
59 <TableRow>
60
61     <TextView
62         android:id="@+id/tv4"
63         android:layout_gravity="center_vertical"
64         android:text="그림4"
65         android:textSize="15dp" />
66
67     <RatingBar
68         android:id="@+id/rbar4"
69         style="?android:attr/ratingBarStyleIndicator"
70         android:layout_width="match_parent"
71         android:layout_height="wrap_content"
72         android:layout_gravity="right" >
73     </RatingBar>
74 </TableRow>

```

```

76 <TableRow>
77
78
79     <TextView
80         android:id="@+id/tv5"
81         android:layout_gravity="center_vertical"
82         android:text="그림5"
83         android:textSize="15dp" />
84
85     <RatingBar
86         android:id="@+id/rbar5"
87         style="?android:attr/ratingBarStyleIndicator"
88         android:layout_width="match_parent"
89         android:layout_height="wrap_content"
90         android:layout_gravity="right" />
91 </RatingBar>
92 </TableRow>
93
94 <TableRow>
95
96     <TextView
97         android:id="@+id/tv6"
98         android:layout_gravity="center_vertical"
99         android:text="그림6"
100         android:textSize="15dp" />
101
102     <RatingBar
103         android:id="@+id/rbar6"
104         style="?android:attr/ratingBarStyleIndicator"
105         android:layout_width="match_parent"
106         android:layout_height="wrap_content"
107         android:layout_gravity="right" />
108 </RatingBar>
109 </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

```

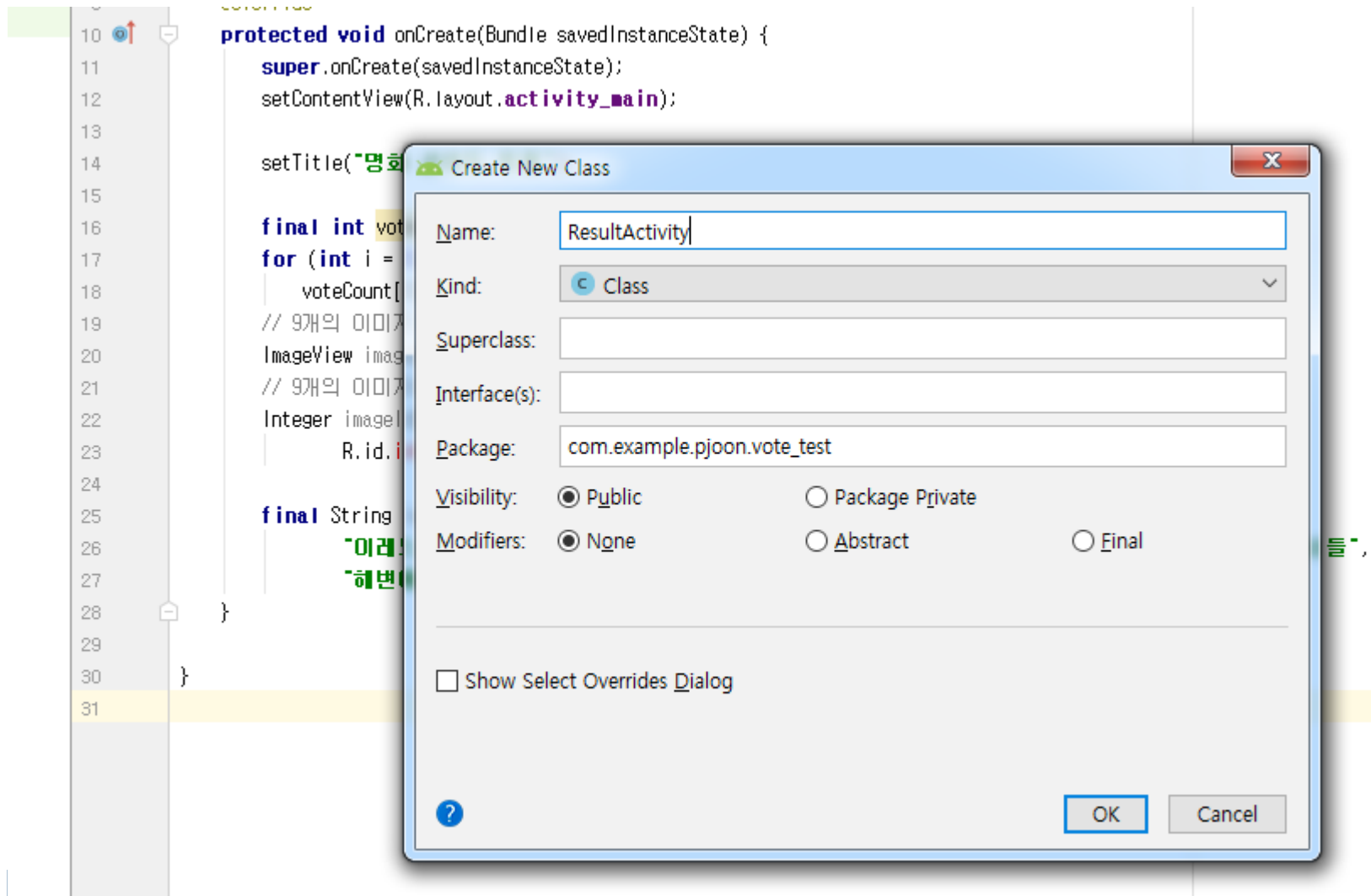
```

143
144 <TableRow>
145
146 <TextView
147     android:id="@+id/tv9"
148     android:layout_gravity="center_vertical"
149     android:text="그림9"
150     android:textSize="15dp" />
151
152 <RatingBar
153     android:id="@+id/rbar9"
154     style="?android:attr/ratingBarStyleIndicator"
155     android:layout_width="match_parent"
156     android:layout_height="wrap_content"
157     android:layout_gravity="right" />
158 </RatingBar>
159 </TableRow>
160
161 <TableRow>
162
163 <Button
164     android:id="@+id/btnReturn"
165     android:layout_width="wrap_content"
166     android:layout_height="wrap_content"
167     android:layout_span="2"
168     android:text="돌아가기" />
169 </Button>
170 </TableRow>
171 </TableLayout>

```



ResultActivity.java 파일 생성



```
activity_main.xml x result.xml x MainActivity.java x ResultActivity.java x
1 package com.example.pjoon.vote_test;
2
3 import android.app.Activity;
4 import android.os.Bundle;
5
6 public class ResultActivity extends Activity {
7     @Override
8     protected void onCreate(Bundle savedInstanceState) {
9         super.onCreate(savedInstanceState);
10        setContentView(R.layout.result);
11    }
12 }
13
```


Manifest 파일에 추가



```
1 <?xml version="1.0" encoding="utf-8"?>
2 <manifest xmlns:android="http://schemas.android.com/apk/res/android"
3     package="com.example.pjoon.vote_test">
4
5     <application
6         android:allowBackup="true"
7         android:icon="@mipmap/ic_launcher"
8         android:label="@string/app_name"
9         android:roundIcon="@mipmap/ic_launcher_round"
10        android:supportRtl="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=".ResultActivity" android:label="@string/result_label" />
21    </application>
22
23 </manifest>
```




```

32
33
34     for (int i = 0; i < imageId.length; i++) {
35         final int index; // 주의! 꼭 필요함..
36         index = i;
37         image[index] = (ImageView) findViewById(imageId[index]);
38         image[index].setOnClickListener(new View.OnClickListener() {
39             public void onClick(View v) {
40                 // TODO Auto-generated method stub
41                 // 투표수 증가.
42                 voteCount[index]++;
43                 Toast.makeText(getApplicationContext(),
44                     text: imageName[index] + ": 총 " + voteCount[index] + " 표",
45                     Toast.LENGTH_SHORT).show();
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", imageName);
56                 startActivity(intent);
57             }
58         });
59
60     }
61

```

ResultActivity.java 코딩



```
11 public class ResultActivity extends Activity {
12     @Override
13     protected void onCreate(Bundle savedInstanceState) {
14         super.onCreate(savedInstanceState);
15         setContentView(R.layout.result);
16
17         setTitle("투표 결과");
18
19         // 앞 화면에서 보낸 투표 결과 값을 받는다.
20         Intent intent = getIntent();
21         int[] voteResult = intent.getIntArrayExtra( name: "VoteCount");
22         String[] imageName = intent.getStringArrayExtra( name: "ImageName");
23
24         // 9개의 TextView, RatingBar 객체배열
25         TextView tv[] = new TextView[imageName.length];
26         RatingBar rbar[] = new RatingBar[imageName.length];
27
28         // 9개의 TextView, RatingBar ID 배열
29         Integer tvID[] = { R.id.tv1, R.id.tv2, R.id.tv3, R.id.tv4, R.id.tv5,
30             R.id.tv6, R.id.tv7, R.id.tv8, R.id.tv9 };
31         Integer rbarID[] = { R.id.rbar1, R.id.rbar2, R.id.rbar3, R.id.rbar4,
32             R.id.rbar5, R.id.rbar6, R.id.rbar7, R.id.rbar8, R.id.rbar9 };
```

```

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 TextView 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

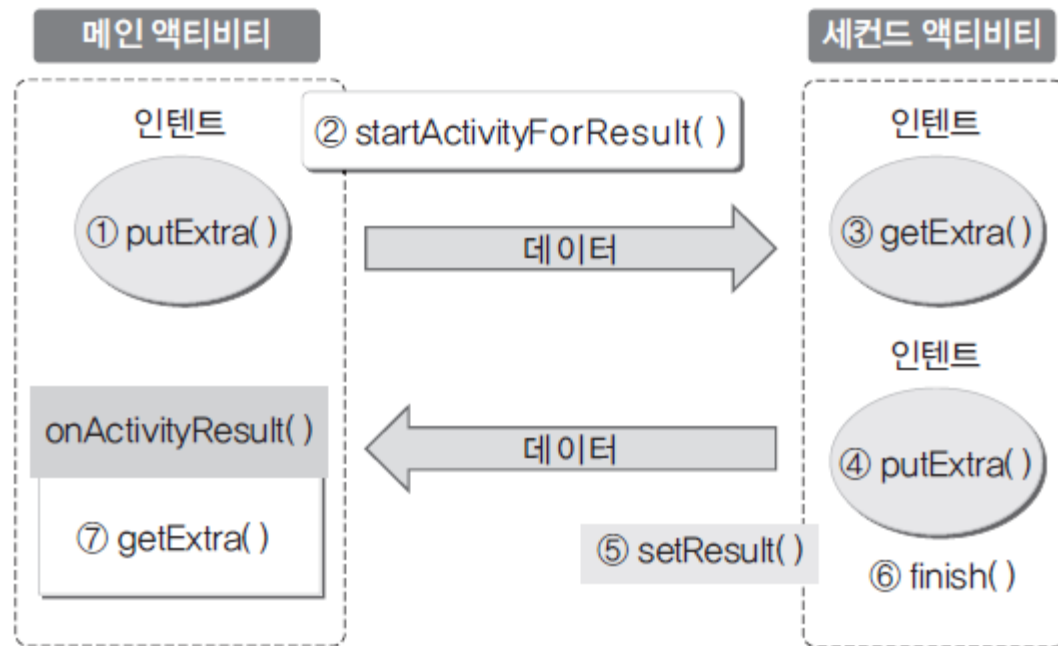
```



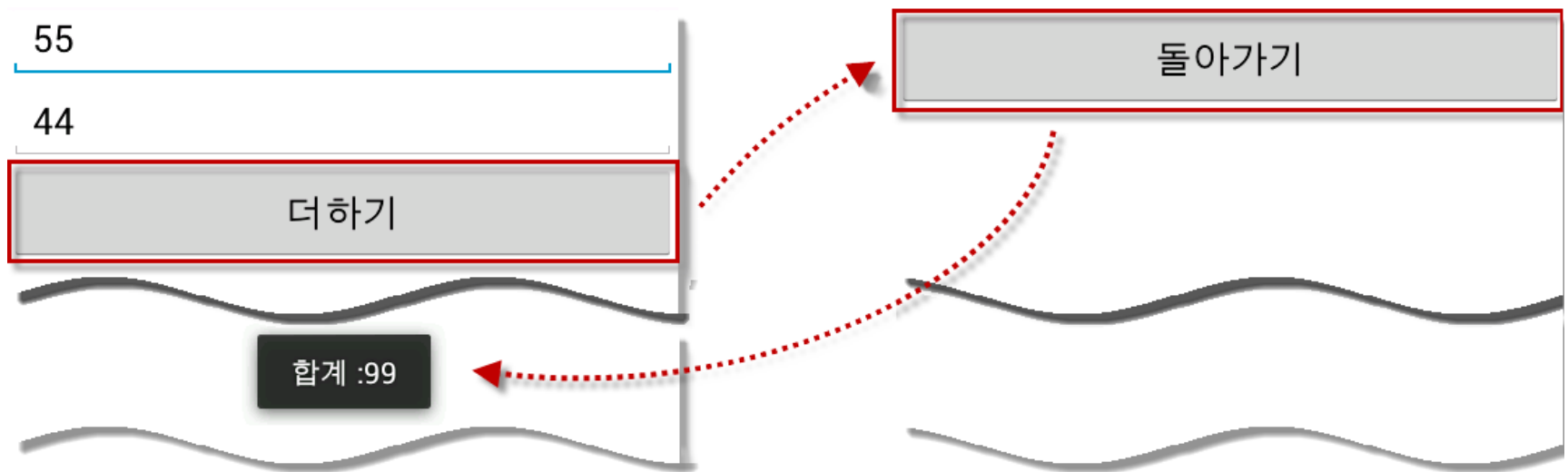
양방향 액티비티

▶ 양방향으로 데이터 전달

- ▶ 메인 액티비티에서 세컨드 액티비티로 데이터를 넘긴 후에 다시 세컨드 액티비티에서 메인액티비티로 데이터를 돌려 주는 경우



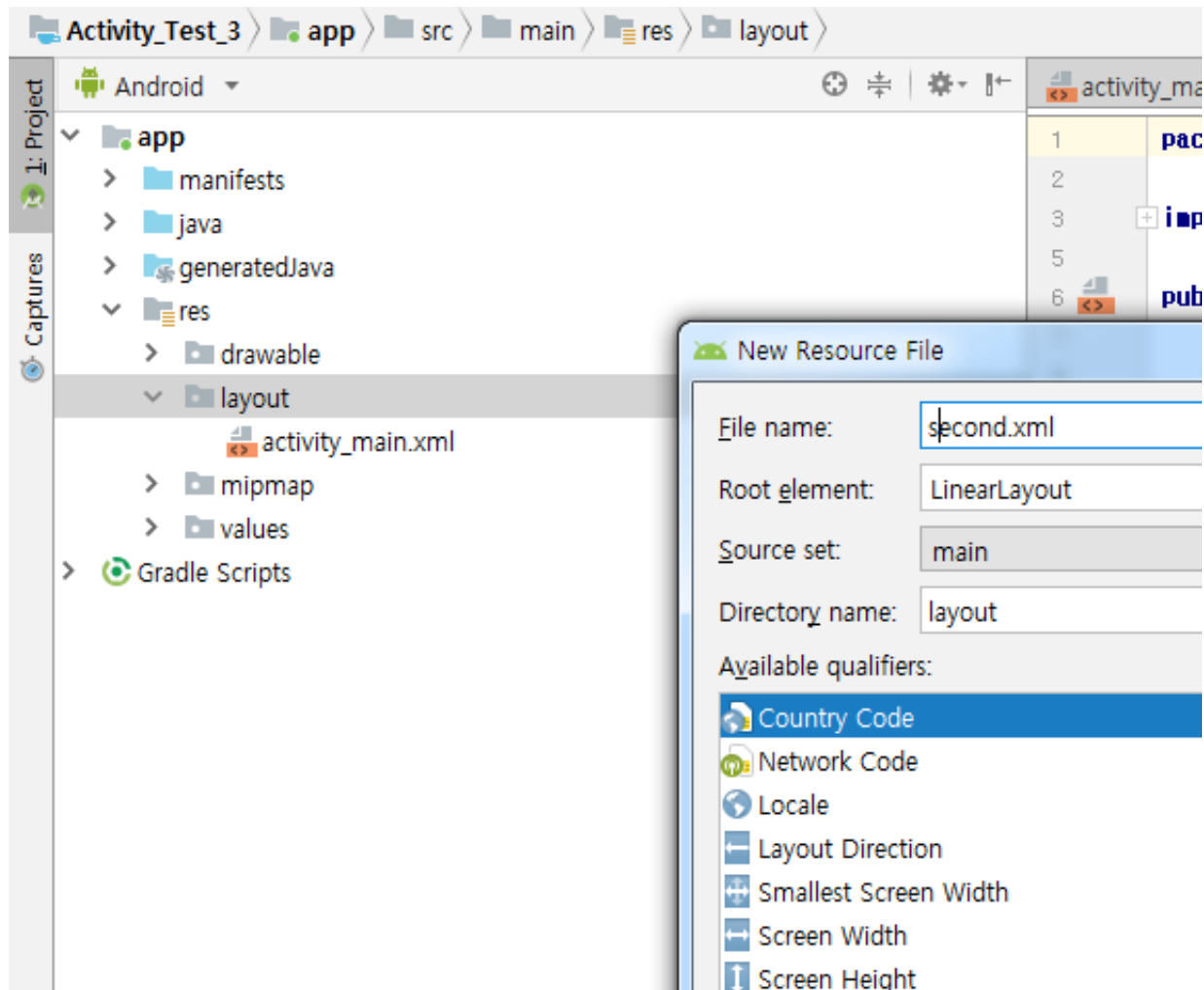
- ▶ 메인 액티비티의 에디트텍스트의 두 수를 세컨드 액티비티에서 더한 후에 다시 메인 액티비티로 돌려주는 경우





Create Android Project

Application name**Company domain****Project location****Package name**☐ Include C++ support☐ Include Kotlin support



Activity Main. XML

```
activity_main.xml x MainActivity.java x second.xml x
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



The screenshot shows the Android Studio IDE with three tabs: 'activity_main.xml', 'MainActivity.java', and 'second.xml'. The 'second.xml' tab is active, displaying the following XML code:

```
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="match_parent"
5   android:layout_height="match_parent"
6   android:orientation="vertical" >
7
8   <Button
9     android:id="@+id/btnReturn"
10    android:layout_width="match_parent"
11    android:layout_height="wrap_content"
12    android:text="돌아가기" />
13
14 </LinearLayout>
```

The code is color-coded: XML tags are blue, attributes are green, and values are black. The text '돌아가기' is highlighted in yellow. A lightbulb icon is visible next to line 13, and a yellow highlight bar is at the bottom of the editor.

secondActivity.java 생성

The screenshot displays the Android Studio IDE. On the left, the Project Explorer shows the package structure: `com.example.pjoon.activity_test_3` containing `MainActivity`, `com.example.pjoon.activity_test_3 (androidTest)`, and `com.example.pjoon.activity_test_3 (test)`. Below these are `generatedJava`, `res` (with `drawable`, `layout`, `mipmap`, and `values` subfolders), and `Gradle Scripts`. The `layout` folder contains `activity_main.xml` and `second.xml`. The main editor shows the `MainActivity` class with the following code:

```
9  
10 public class MainActivity extends AppCompatActivity {  
11  
12     @Override  
13     protected void onCreate(Bundle savedInstanceState) {  
14         super.onCreate(savedInstanceState);  
15         setContentView(R.layout.activity_main);  
16         setTitle("메인 액티비티");  
17  
18         Button btnNewA  
19         btnNewActivity  
20         public void  
21  
22         EditTe  
23         EditTe  
24  
25         Intent  
26         intent  
27         intent  
28         startA  
29  
30     }  
31  
32     }  
33  
34  
35 }
```

A "Create New Class" dialog box is open in the foreground, with the following fields and options:

- Name: `secondActivity`
- Kind: `Class`
- Superclass: (empty)
- Interface(s): (empty)
- Package: `com.example.pjoon.activity_test_3`
- Visibility: ☒ Public, ☐ Package Private
- Modifiers: ☒ None, ☐ Abstract, ☐ Final
- ☐ Show Select Overrides Dialog

MainActivity.java

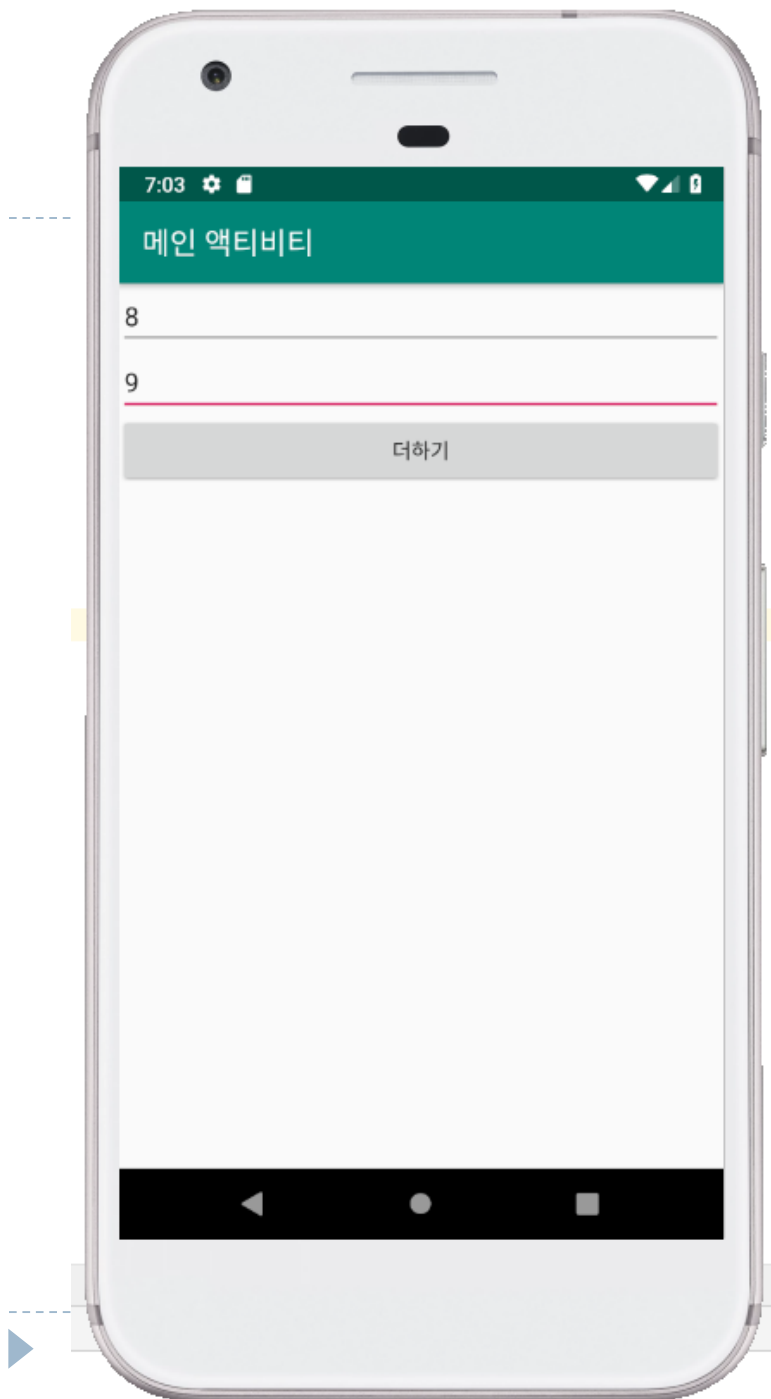
```
11 public class MainActivity extends AppCompatActivity {
12
13     @Override
14     protected void onCreate(Bundle savedInstanceState) {
15         super.onCreate(savedInstanceState);
16         setContentView(R.layout.activity_main);
17         setTitle("메인 액티비티");
18
19         Button btnNewActivity = (Button) findViewById(R.id.btnNewActivity);
20         btnNewActivity.setOnClickListener(new View.OnClickListener() {
21             public void onClick(View v) {
22
23                 EditText edtNum1 = (EditText) findViewById(R.id.edtNum1);
24                 EditText edtNum2 = (EditText) findViewById(R.id.edtNum2);
25
26                 Intent intent = new Intent(getApplicationContext(), secondActivity.class);
27                 intent.putExtra("name: Num1",
28                     Integer.parseInt(edtNum1.getText().toString()));
29                 intent.putExtra("name: Num2",
30                     Integer.parseInt(edtNum2.getText().toString()));
31                 startActivityForResult(intent, requestCode: 0);
32             }
33         });
34
35     }
36
37     @Override
38     protected void onActivityResult(int requestCode, int resultCode, Intent data) {
39
40         if (resultCode == RESULT_OK) {
41             int hap = data.getIntExtra("name: Hap", defaultValue: 0);
42             Toast.makeText(getApplicationContext(), text: "합계 : " + hap,
43                 Toast.LENGTH_SHORT).show();
44         }
45     }
46
47 }
48
```

secondActivity.java

```
8
9 public class secondActivity extends AppCompatActivity {
10
11     @Override
12     protected void onCreate(Bundle savedInstanceState) {
13
14         super.onCreate(savedInstanceState);
15         setContentView(R.layout.second);
16         setTitle("Second 액티비티");
17
18         Intent inIntent = getIntent();
19         final int hapValue = inIntent.getIntExtra("Num1", 0)
20             + inIntent.getIntExtra("Num2", 0);
21
22         Button btnReturn = (Button) findViewById(R.id.btnReturn);
23         btnReturn.setOnClickListener(new View.OnClickListener() {
24             public void onClick(View v) {
25                 Intent outIntent = new Intent(getApplicationContext(),
26                     MainActivity.class);
27                 outIntent.putExtra("Hap", hapValue);
28                 setResult(RESULT_OK, outIntent);
29                 finish();
30             }
31         });
32     }
33
34
35
36
37 }
```

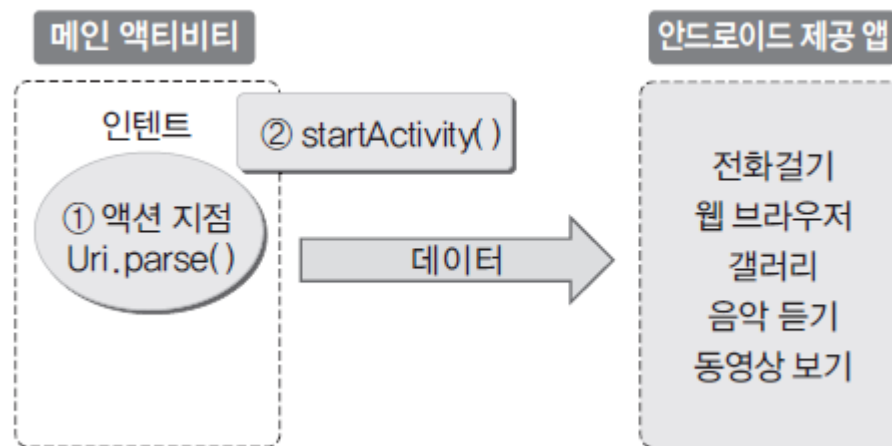
Manifest

```
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:supportRtl="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 지정하여 안드로이드에서 제공하는 기존 응용 프로그램을 실행하는것
- ▶ 예로 전화번호를 인텐트로 넘기면 전화 걸기 응용 프로그램이 실행됨



▶ 응급 전화를 거는 형식의 예

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

▶ 전화 걸기는 아래와 같은 권한 추가

```
<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 Android Project

Application name**Company domain****Project location****Package name**☐ Include C++ support☐ Include Kotlin support

```

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      <Button
9          android:id="@+id/btnDial"
10         android:layout_width="match_parent"
11         android:layout_height="wrap_content"
12         android:text="전화 걸기" />
13
14     <Button
15         android:id="@+id/btnWeb"
16         android:layout_width="match_parent"
17         android:layout_height="wrap_content"
18         android:text="홈 페이지 열기" />
19
20     <Button
21         android:id="@+id/btnGoogle"
22         android:layout_width="match_parent"
23         android:layout_height="wrap_content"
24         android:text="구글 뽀 열기" />

```

```

25
26     <Button
27         android:id="@+id/btnSearch"
28         android:layout_width="match_parent"
29         android:layout_height="wrap_content"
30         android:text="구글 검색하기" />
31
32     <Button
33         android:id="@+id/btnSms"
34         android:layout_width="match_parent"
35         android:layout_height="wrap_content"
36         android:text="문자 보내기" />
37
38     <Button
39         android:id="@+id/btnPhoto"
40         android:layout_width="match_parent"
41         android:layout_height="wrap_content"
42         android:text="사진 보기" />
43
44 </LinearLayout>

```

Manifest 파일

```
activity_main.xml x MainActivity.java x AndroidManifest.xml x
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:supportRtl="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>
```

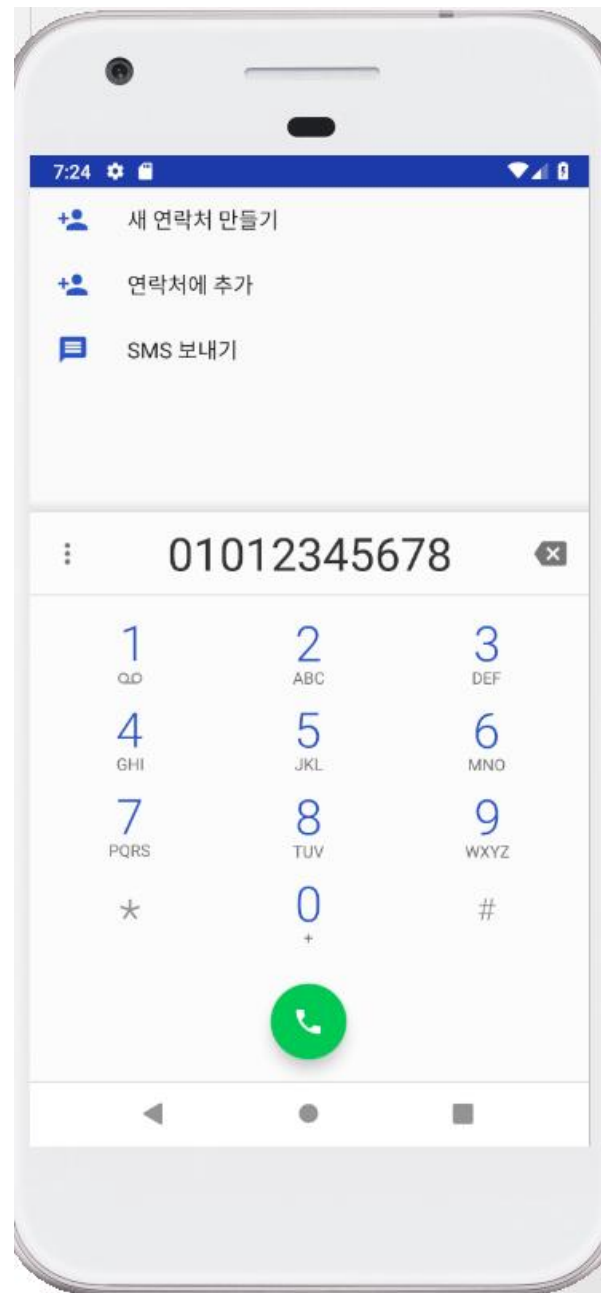
```

11
12 public class MainActivity extends AppCompatActivity {
13
14     @Override
15     protected void onCreate(Bundle savedInstanceState) {
16         super.onCreate(savedInstanceState);
17         setContentView(R.layout.activity_main);
18
19         setTitle("암시적 인텐트 예제");
20
21         Button btnDial = (Button) findViewById(R.id.btnDial);
22         Button btnWeb = (Button) findViewById(R.id.btnWeb);
23         Button btnGoogle = (Button) findViewById(R.id.btnGoogle);
24         Button btnSearch = (Button) findViewById(R.id.btnSearch);
25         Button btnSms = (Button) findViewById(R.id.btnSms);
26         Button btnPhoto = (Button) findViewById(R.id.btnPhoto);
27
28         btnDial.setOnClickListener(new View.OnClickListener() {
29             public void onClick(View v) {
30                 Uri uri = Uri.parse("tel:010-1234-5678");
31                 Intent intent = new Intent(Intent.ACTION_DIAL, uri);
32                 startActivity(intent);
33             }
34         });
35
36         btnWeb.setOnClickListener(new View.OnClickListener() {
37             public void onClick(View v) {
38                 Uri uri = Uri.parse("http://www.dongseo.ac.kr");
39                 Intent intent = new Intent(Intent.ACTION_VIEW, uri);
40                 startActivity(intent);
41             }
42         });
43

```

43
44
45
46
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72
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```
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("sms:" + 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);  
    }  
});
```

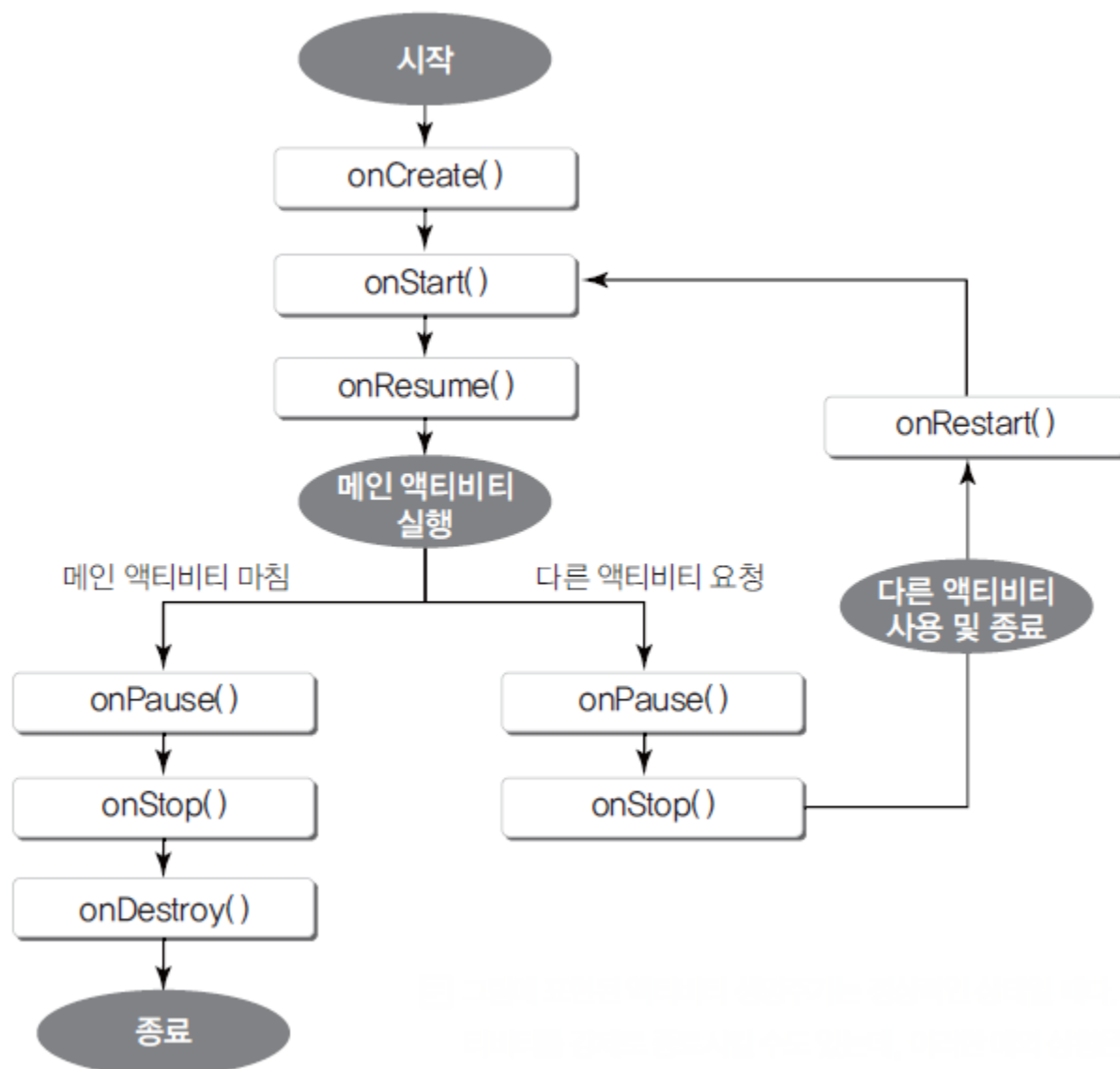
액티비티 생명주기

▶ 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

Company domain

Project location



Package name

☐ Include C++ support☐ Include Kotlin support

activity_main.xml ×

MainActivity.java ×

```
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     <Button
9         android:id="@+id/btnDial"
10        android:layout_width="match_parent"
11        android:layout_height="wrap_content"
12        android:text="전화걸기" />
13
14    <Button
15        android:id="@+id/btnFinish"
16        android:layout_width="match_parent"
17        android:layout_height="wrap_content"
18        android:text="끝내기" />
19
20 </LinearLayout>
```

OVERWRITE

```
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();  
        }  
    });  
}
```

```
36  @Override
37  protected void onDestroy() {
38      super.onDestroy();
39      android.util.Log.i( tag: "액티비티 테스트", msg: "onDestroy()");
40  }
41
42  @Override
43  protected void onPause() {
44      super.onPause();
45      android.util.Log.i( tag: "액티비티 테스트", msg: "onPause()");
46  }
47
48  @Override
49  protected void onRestart() {
50      super.onRestart();
51      android.util.Log.i( tag: "액티비티 테스트", msg: "onRestart()");
52  }
53
54  @Override
55  protected void onResume() {
56      super.onResume();
57      android.util.Log.i( tag: "액티비티 테스트", msg: "onResume()");
58  }
59
60  @Override
61  protected void onStart() {
62      super.onStart();
63      android.util.Log.i( tag: "액티비티 테스트", msg: "onStart()");
64  }
65
66  @Override
67  protected void onStop() {
68      super.onStop();
69      android.util.Log.i( tag: "액티비티 테스트", msg: "onStop()");
70  }
71
```


No connected devices

No debuggable processes

Verbose

Q

Create New Logcat Filter

+ -

Filter Name: Unnamed-0

Unnamed-0

Specify one or several filtering parameters:

Log Tag: Q ☒ RegexLog Message: Q ☒ RegexPackage Name: Q ☒ RegexPID:

Log Level: Verbose

OK

Cancel

Create New Logcat Filter

+ -

Filter Name: 액티비티

액티비티

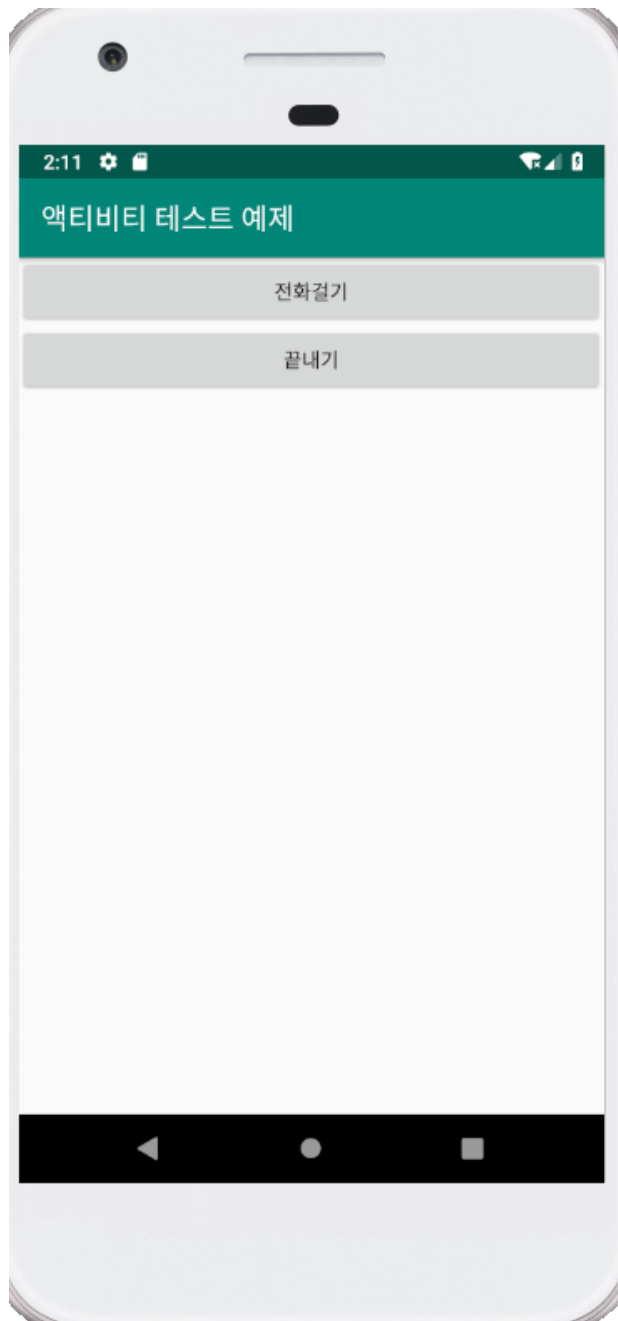
Specify one or several filtering parameters:

Log Tag: Q 액티비티 ☒ RegexLog Message: Q ☒ RegexPackage Name: Q ☒ RegexPID:

Log Level: Verbose

OK

Cancel



ator Pixel_4 Andr ▾ com.example.pjoon.logca ▾ Verbose ▾ 🔍

```
-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()
```