

안드로이드 화면 전환

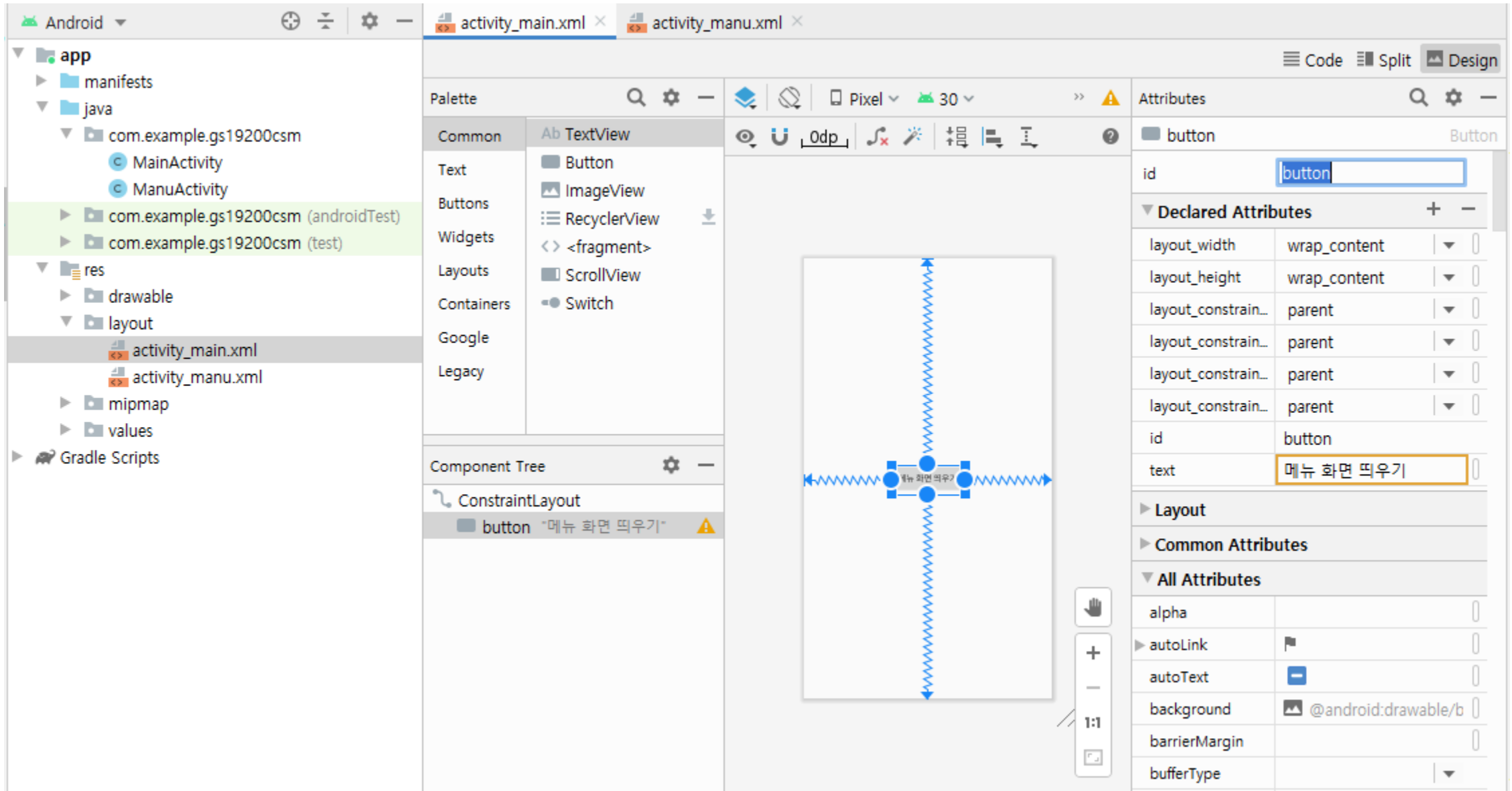


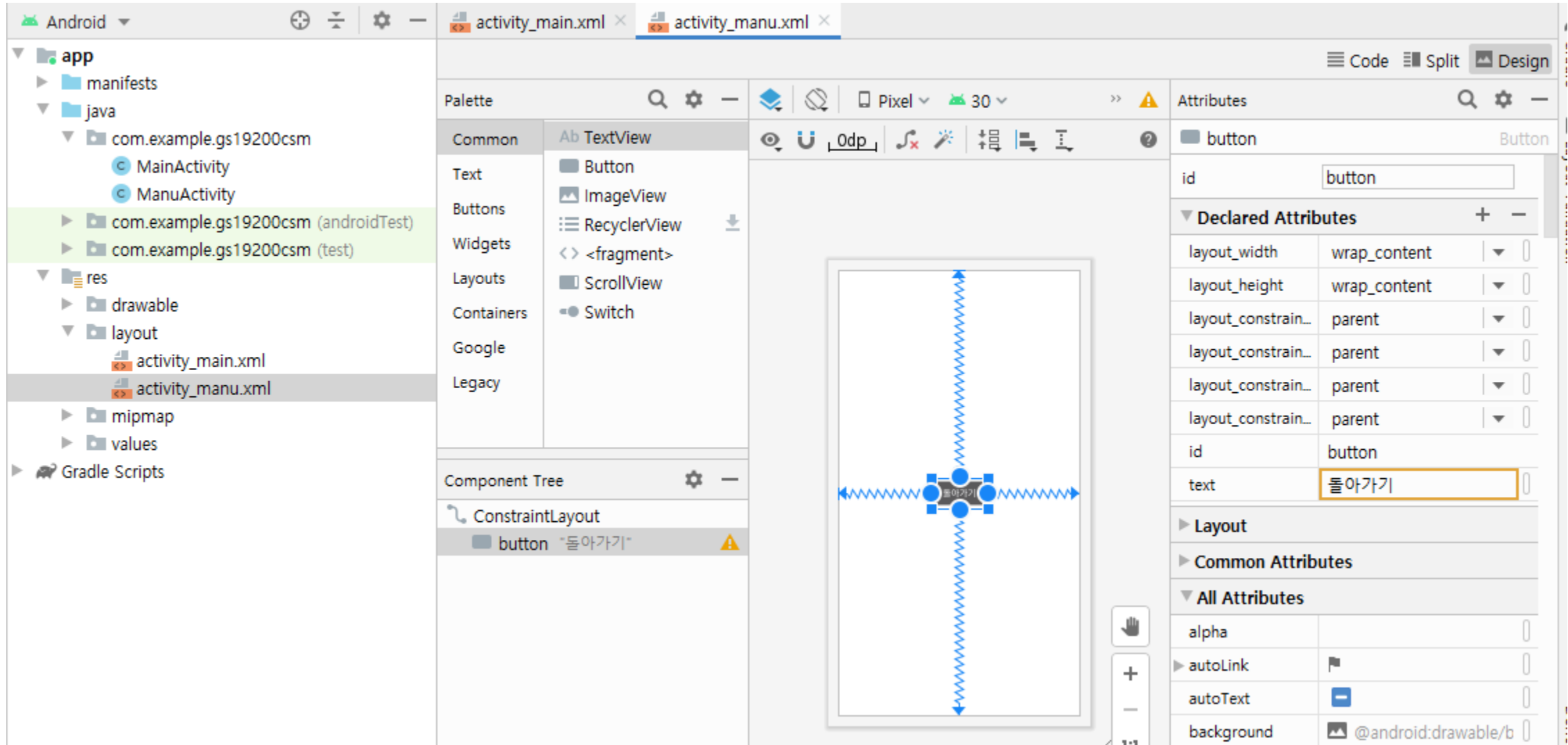
Intent

- Intent는 안드로이드 시스템을 통해 다른 앱의 구성요소나 액티비티의 작업(action)을 요청하는데 사용되는 객체
- Intent로 할 수 있는 일
 1. start activity
 2. start service
 3. deliver Broadcast

Intent - data 전달

새프로젝트- Gs21200csm-Activity추가-화면과 같이 구성





```

1  package com.example.gs19200csm;
2
3  import ...
4
11
12  public class MainActivity extends AppCompatActivity {
13
14      public static final int REQUEST_CODE_MENU = 101;
15
16
17      @Override
18      protected void onCreate(Bundle savedInstanceState) {
19          super.onCreate(savedInstanceState);
20          setContentView(R.layout.activity_main);
21
22          Button button = findViewById(R.id.button);
23          button.setOnClickListener(new View.OnClickListener(){
24              @Override
25              public void onClick(View v){
26                  Intent intent = new Intent(getApplicationContext(), ManuActivity.class);
27                  startActivityForResult(intent, REQUEST_CODE_MENU);
28              }
29          });
30      }
31
32      @Override
33      protected void onActivityResult(int requestCode, int resultCode, @Nullable Intent data) {
34          super.onActivityResult(requestCode, resultCode, data);
35

```

```

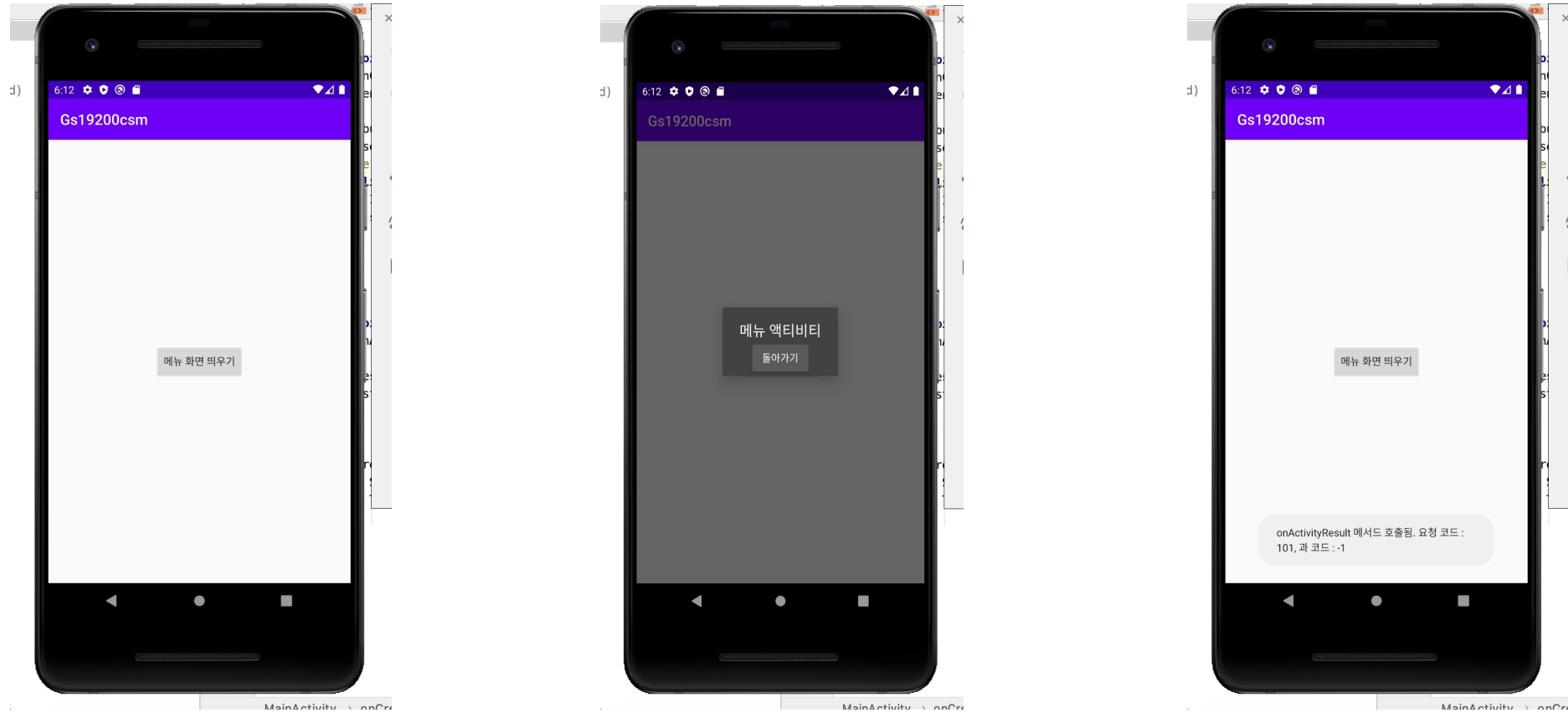
35
36      if(requestCode == REQUEST_CODE_MENU) {
37          Toast.makeText(getApplicationContext(),
38              text: "onActivityResult 메서드 호출됨. 요청 코드 : " + requestCode +
39              ", 과 코드 : " + resultCode, Toast.LENGTH_LONG).show();
40
41          if(resultCode == RESULT_OK) {
42              String name = data.getStringExtra(name: "name");
43              Toast.makeText(getApplicationContext(), text: "응답으로 전달된 name : " + name,
44                  Toast.LENGTH_LONG).show();
45          }
46      }
47  }
48  }
49

```

activity_main.xml × activity_manu.xml × MainActivity.java × ManuActivity.java ×

```
1 package com.example.gs19200csm;
2
3 import ...
4
5
6
7
8
9
10 public class ManuActivity extends AppCompatActivity {
11
12     @Override
13     protected void onCreate(Bundle savedInstanceState) {
14         super.onCreate(savedInstanceState);
15         setContentView(R.layout.activity_manu);
16
17         Button button = findViewById(R.id.button);
18         button.setOnClickListener(new View.OnClickListener() {
19             public void onClick(View v) {
20                 Intent intent = new Intent();
21                 intent.putExtra(name: "name", value: "mike");
22                 setResult(RESULT_OK, intent);
23                 finish();
24             }
25         });
26     }
27 }
```

에뮬레이터 실행 동영상 녹화 파일저장은 21XXX아무개_과제8



MainActivity->MenuActivity->MainActivity 의 순서로
화면이 전환되는 과정을 녹화

Android ▾

activity_main.xml × activity_manu.xml × MainActivity.java × MenuActivity.java × AndroidManifest.xml ×

▼ app

▼ manifests

AndroidManifest.xml

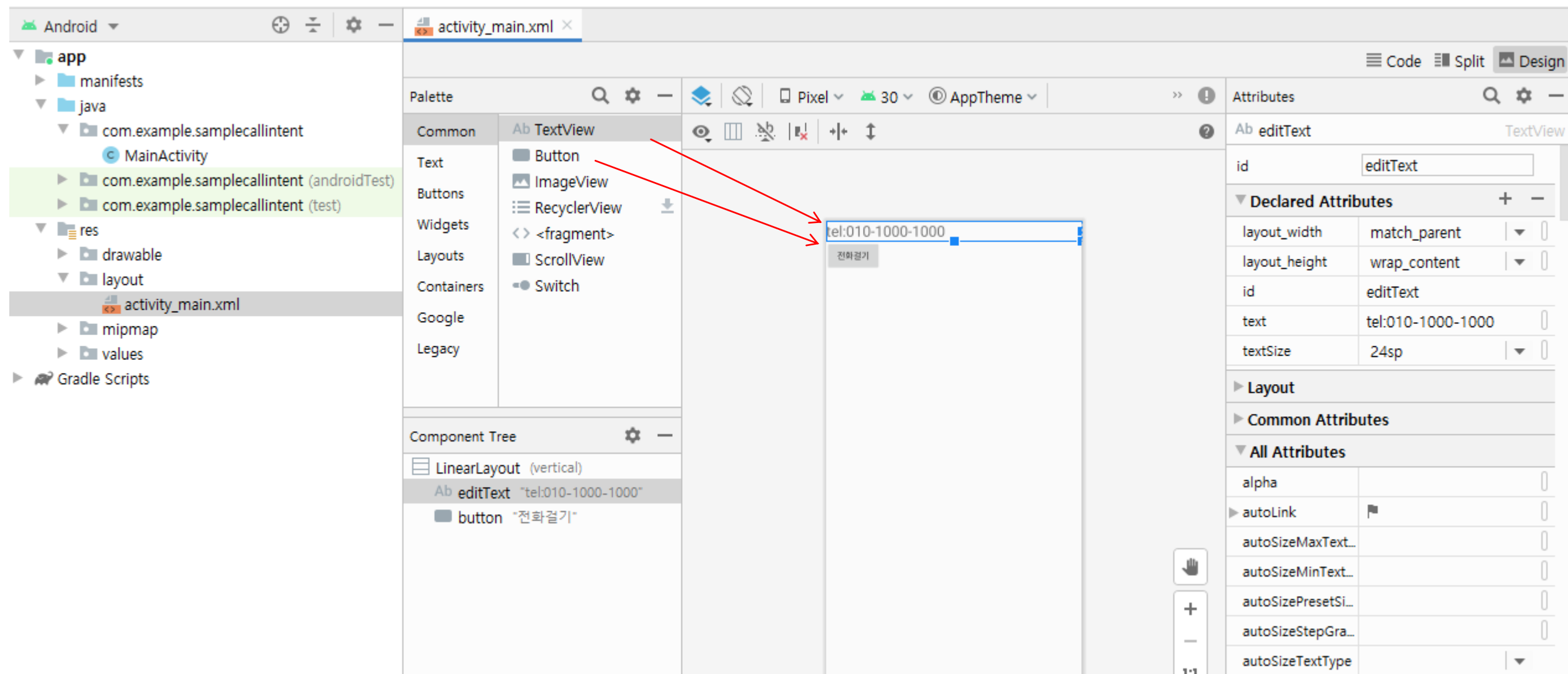
▶ java

▶ res

▶ Gradle Scripts

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <manifest xmlns:android="http://schemas.android.com/apk/res/android"
3     package="com.example.gs19200csm">
4
5     <application
6         android:allowBackup="true"
7         android:icon="@mipmap/ic_launcher"
8         android:label="Gs19200csm"
9         android:roundIcon="@mipmap/ic_launcher_round"
10        android:supportRtl="true"
11        android:theme="@style/AppTheme">
12        <activity android:name=".MenuActivity"
13            android:label="메뉴 액티비티"
14            android:theme="@style/Theme.AppCompat.Dialog">
15        </activity>
16        <activity android:name=".MainActivity">
17            <intent-filter>
18                <action android:name="android.intent.action.MAIN" />
19
20                <category android:name="android.intent.category.LAUNCHER" />
21            </intent-filter>
22        </activity>
23    </application>
24
25 </manifest>
```

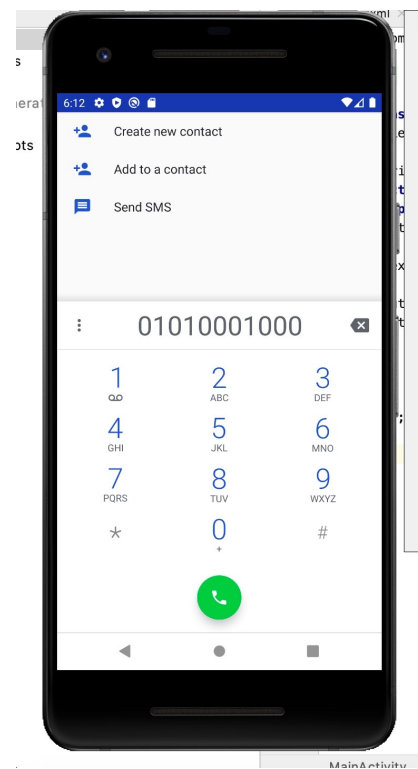
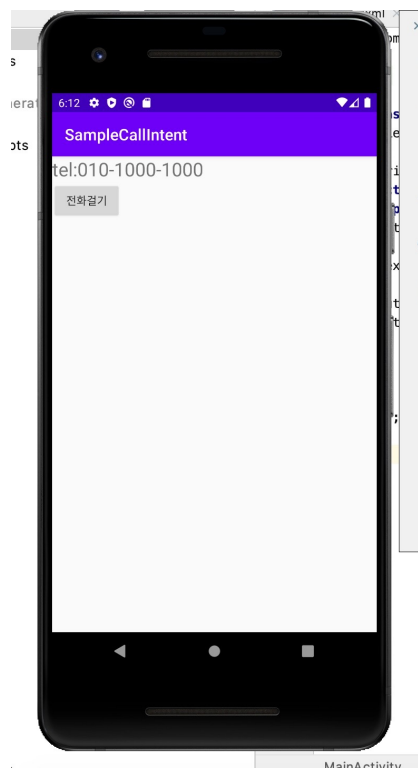

새프로젝트- Gs21200csmCallIntent -Activity추가-화면과 같이 구성



activity_main.xml x MainActivity.java x

```
1 package com.example.samplecallintent;
2
3 import ...
4
12
13 public class MainActivity extends AppCompatActivity {
14     TextView textView;
15
16     @Override
17     protected void onCreate(Bundle savedInstanceState) {
18         super.onCreate(savedInstanceState);
19         setContentView(R.layout.activity_main);
20
21         textView = findViewById(R.id.editText);
22
23         Button button = findViewById(R.id.button);
24         button.setOnClickListener(new View.OnClickListener() {
25             @Override
26             public void onClick(View view) {
27                 String data = textView.getText().toString();
28
29                 Intent intent = new Intent(Intent.ACTION_VIEW, Uri.parse(data));
30                 startActivity(intent);
31             }
32         });
33     }
34 }
```

에뮬레이터 실행 동영상 녹화 파일저장은 21XXX아무개_과제9



화면이 전환되는 과정을 녹화



User Interface (Fragment, Tab, ViewPager)

Fragment / 상, 하 탭 / 뷰페이지

- ▶ 오늘 수업의 목표 : 필요한 기능을 합쳐라~!!
- ▶ 카카오를 실행시켜 아래 버튼을 눌러보세요.
- ▶ 화면을 옆으로 밀어 보세요.
- ▶ 앱을 실행 중에 메시지가 왔을 때는?

각각의 기능에 대해 실습할 예정입니다. 실제론 기능이 하나의 앱에서 작동할 것임.
우선 따라 하면서 코드를 이해하고 하나로 합쳐 보세요.

오늘은 실제로 스마트폰으로 실행시켜 볼 것을 추천합니다.
상위에 있는 탭보다 하위에 있는 탭이 요즘 많이 사용됩니다. 왜그럴까?
앱을 만들 때 직관적인 UI를 잘~구성하는 것이 50% 이상입니다.
어떤 모양을 기본으로 앱을 만들지 고민해 보세요.

1단계



activity_main.xml
MainActivity.java

새 프로젝트 이름 : Gs21200csmTab
패키지명 : org.techtown.tab

fragment1.xml
Fragment1.java

fragment2.xml
Fragment2.jav

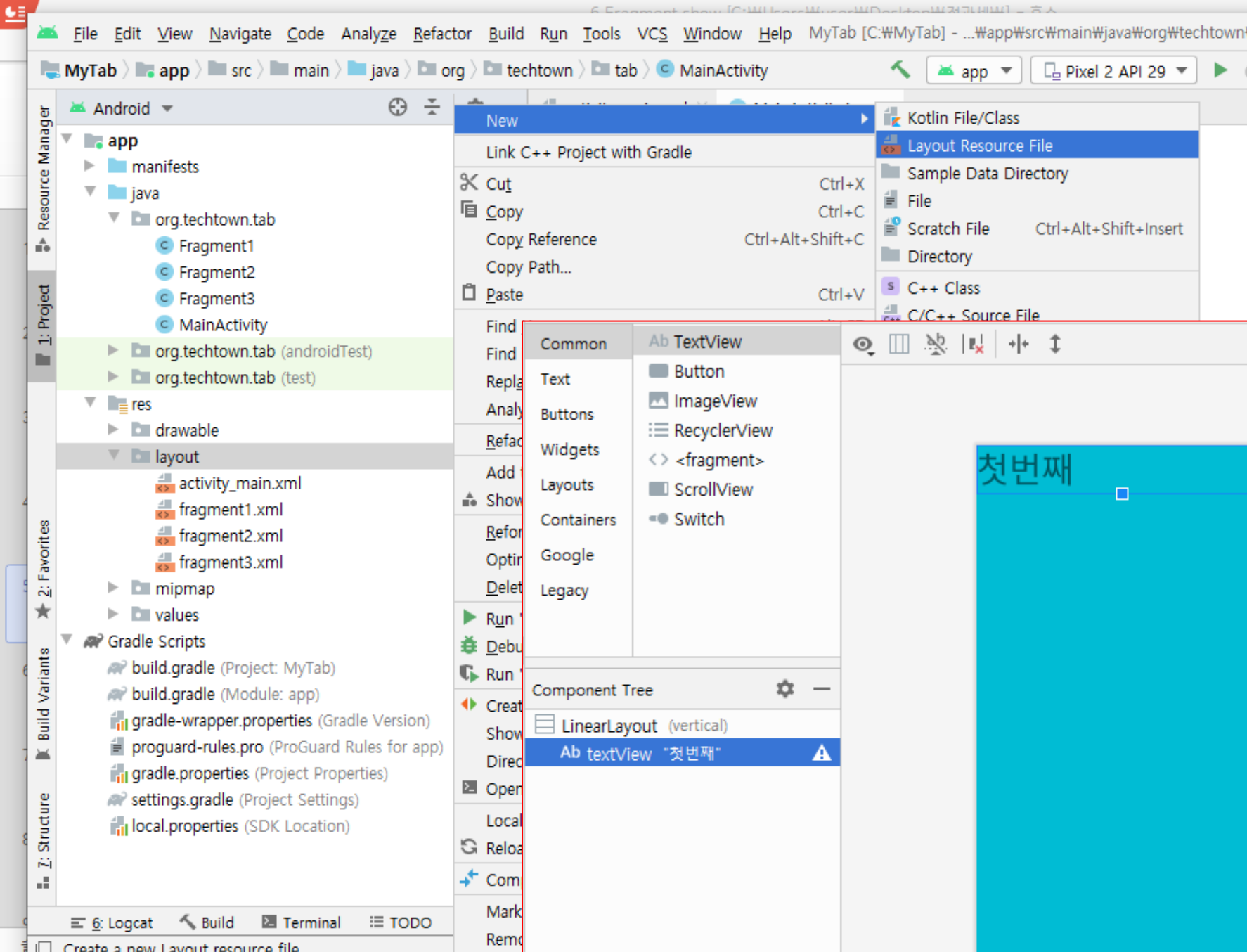
a

fragment3.xml
Fragment3.jav

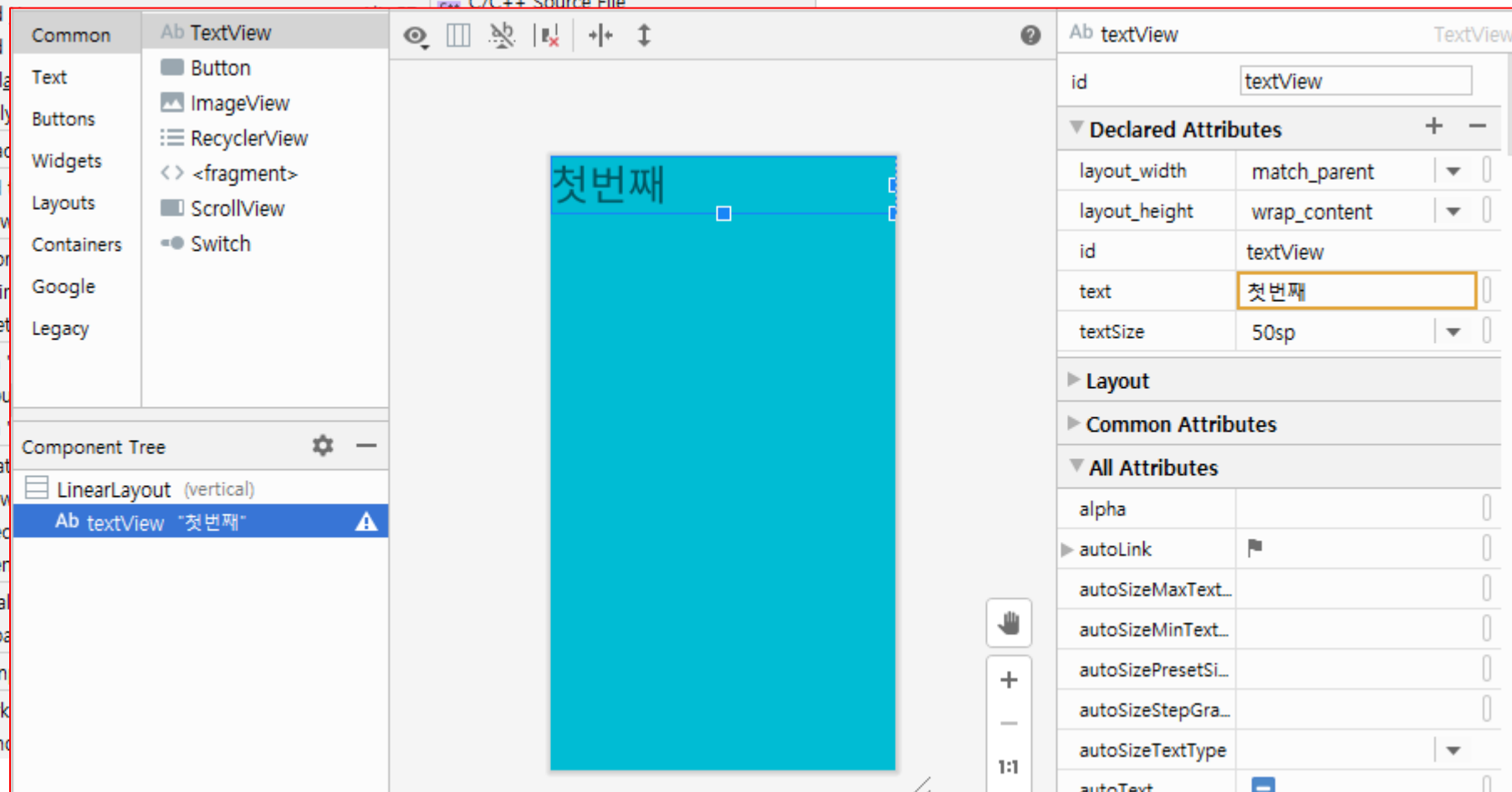
a

실습 순서

- ▶ fragment1.xml , fragment2.xml , fragment3.xml 추가
- ▶ Fragnnet1.java , Fragnnet2.java , Fragnnet3.java 추가
- ▶ Activity_main.xml 작업
- ▶ MainActivity.java 작업
- ▶ 에뮬레이터 결과 확인



fragment1.xml '첫번째' 배경색 자
fragment2.xml '두번째' 배경색 자
fragment3.xml '세번째' 배경색 자
추가,



```
1 package org.techtown.tab;
2
3 import android.os.Bundle;
4 import android.view.LayoutInflater;
5 import android.view.View;
6 import android.view.ViewGroup;
7
8 import androidx.annotation.NonNull;
9 import androidx.annotation.Nullable;
10 import androidx.fragment.app.Fragment;
11
12 public class Fragment1 extends Fragment {
13
14     @Nullable
15     @Override
16     public View onCreateView(@NonNull LayoutInflater inflater, @Nullable ViewGroup container, @Nullable Bundle savedInstanceState) {
17         return inflater.inflate(R.layout.fragment1, container, attachToRoot: false);
18     }
19 }
20
```

Activity_main.xml

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

    <androidx.coordinatorlayout.widget.CoordinatorLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent">
        <com.google.android.material.appbar.AppBarLayout
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:theme="@style/ThemeOverlay.AppCompat.Dark.ActionBar">

            <androidx.appcompat.widget.Toolbar
                android:id="@+id/toolbar"
                android:layout_width="match_parent"
                android:layout_height="wrap_content"
                android:background="@color/colorPrimaryDark"
                android:elevation="1dp"
                android:theme="@style/ThemeOverlay.AppCompat.Dark">

                <TextView
                    android:id="@+id/titleText"
                    android:layout_width="wrap_content"
                    android:layout_height="wrap_content"
                    android:text="타이틀"
                    android:textAppearance="@style/TextAppearance.AppCompat.Widget.ActionBar.Title"/>

            </androidx.appcompat.widget.Toolbar>
```

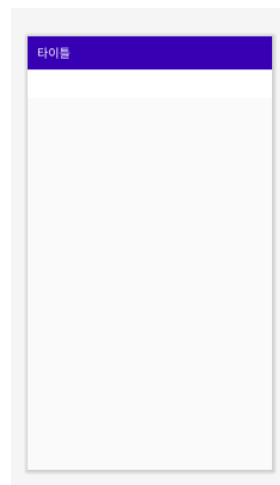
```
        <com.google.android.material.tabs.TabLayout
            android:id="@+id/tabs"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:background="@android:color/background_light"
            android:elevation="1dp"
            app:tabGravity="fill"
            app:tabMode="fixed"
            app:tabSelectedTextColor="@color/colorAccent"
            app:tabTextColor="@color/colorPrimary"/>

        </com.google.android.material.appbar.AppBarLayout>

        <FrameLayout
            android:id="@+id/container"
            android:layout_width="match_parent"
            android:layout_height="match_parent"
            app:layout_behavior="com.google.android.material.appbar.AppBarLayout$Scrolli...">

        </FrameLayout>

    </androidx.coordinatorlayout.widget.CoordinatorLayout>
```



```
activity_main.xml x MainActivity.java x fragment1.xml x Fragment1.java x
1 package org.techtown.tab;
2
3 import android.os.Bundle;
4 import android.util.Log;
5 import androidx.appcompat.app.ActionBar;
6 import androidx.appcompat.app.AppCompatActivity;
7 import androidx.appcompat.widget.Toolbar;
8 import androidx.fragment.app.Fragment;
9 import com.google.android.material.tabs.TabLayout;
10 import static com.google.android.material.tabs.TabLayout.*;
11
12 public class MainActivity extends AppCompatActivity {
13     Fragment1 fragment1;
14     Fragment2 fragment2;
15     Fragment3 fragment3;
16
17     @Override
18     protected void onCreate(Bundle savedInstanceState) {
19         super.onCreate(savedInstanceState);
20         setContentView(R.layout.activity_main);
21
22         fragment1 = new Fragment1();
23         fragment2 = new Fragment2();
24         fragment3 = new Fragment3();
25
26         getSupportFragmentManager().beginTransaction().replace(R.id.container, fragment1).commit();
27
```

```

TabLayout tabs = findViewById(R.id.tabs);
tabs.addTab(tabs.newTab().setText("통화기록"));
tabs.addTab(tabs.newTab().setText("스팸기록"));
tabs.addTab(tabs.newTab().setText("연락처"));

tabs.addOnTabSelectedListener(new TabLayout.OnTabSelectedListener(){
    @Override
    public void onTabSelected(TabLayout.Tab tab){
        int position = tab.getPosition();

        if (position == 0) {
            getSupportFragmentManager().beginTransaction().replace(R.id.container, fragment1).commit();
        } else if(position == 1) {
            getSupportFragmentManager().beginTransaction().replace(R.id.container, fragment2).commit();
        } else if (position == 2) {
            getSupportFragmentManager().beginTransaction().replace(R.id.container, fragment3).commit();
        }

    }

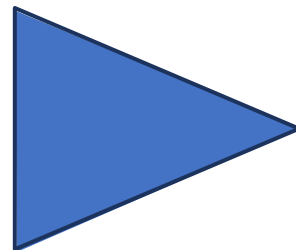
    @Override
    public void onTabUnselected(TabLayout.Tab tab){}

    @Override
    public void onTabReselected(TabLayout.Tab tab){}

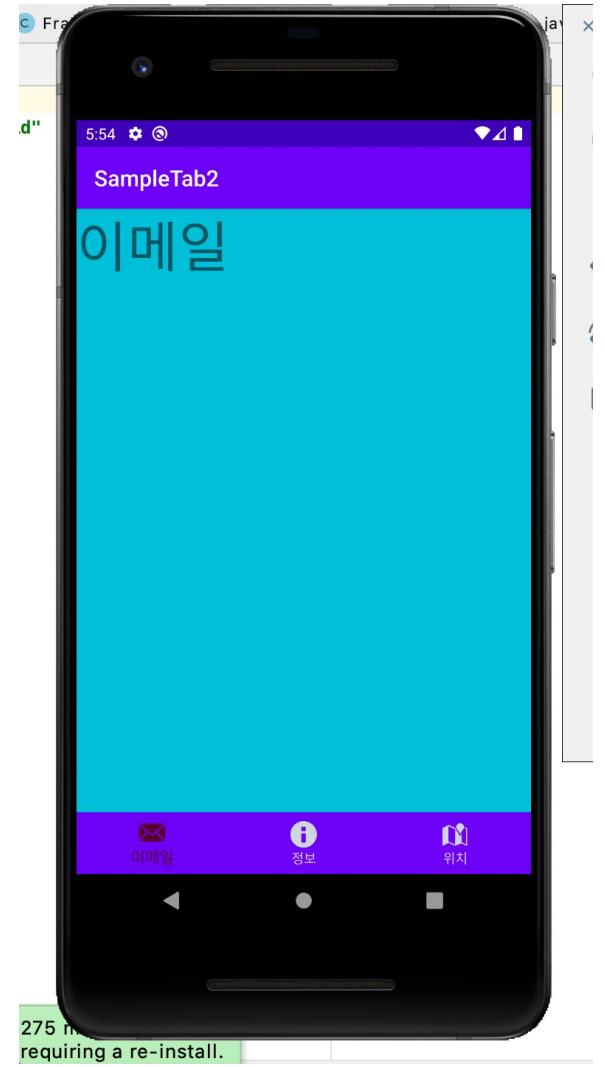
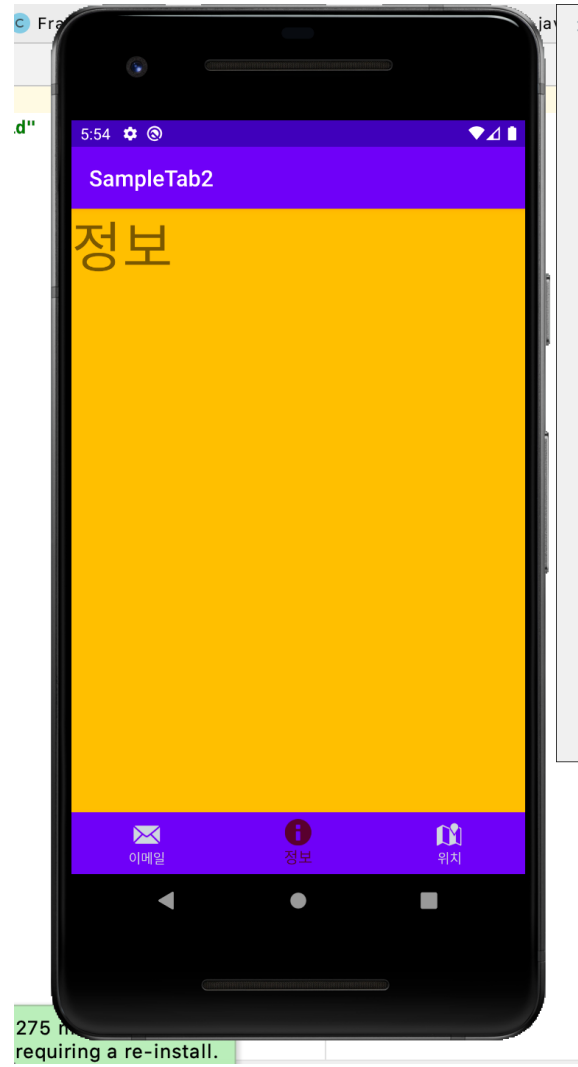
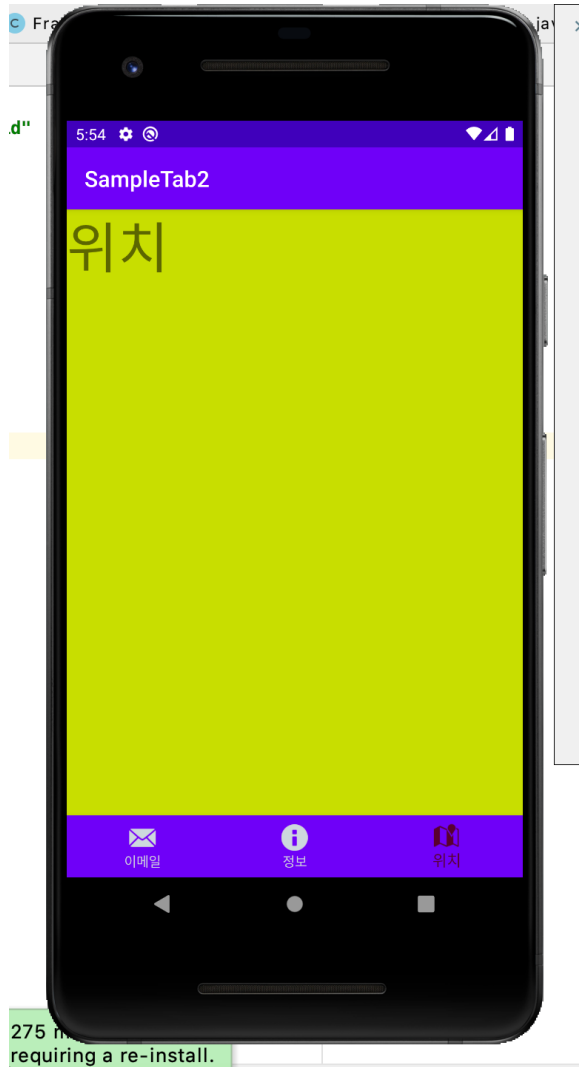
});
}

```

에뮬레이터 실행



2단계



activity_main.xml
MainActivity.java

새 프로젝트 이름 : Gs21200csmTab2
패키지명 : org.techtown.tab2

fragment1.xml
Fragment1.java

fragment2.xml
Fragment2.jav

a

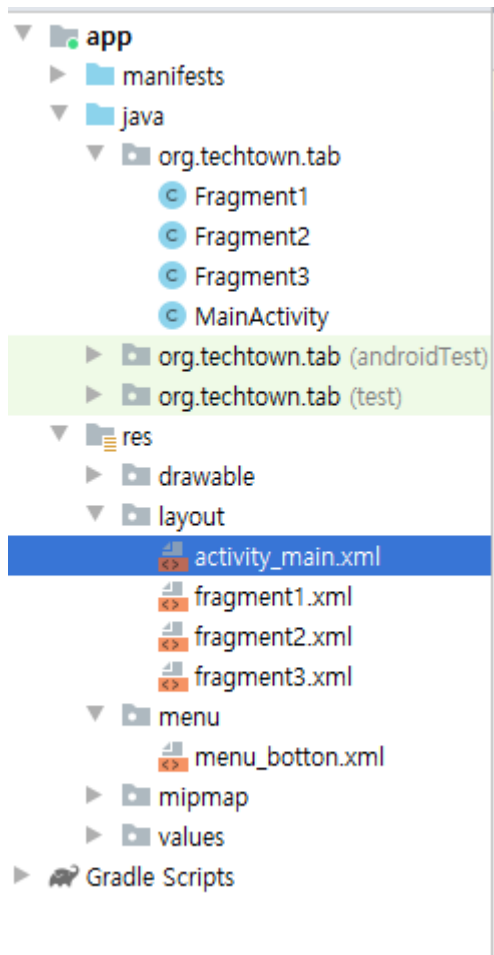
fragment3.xml
Fragment3.jav

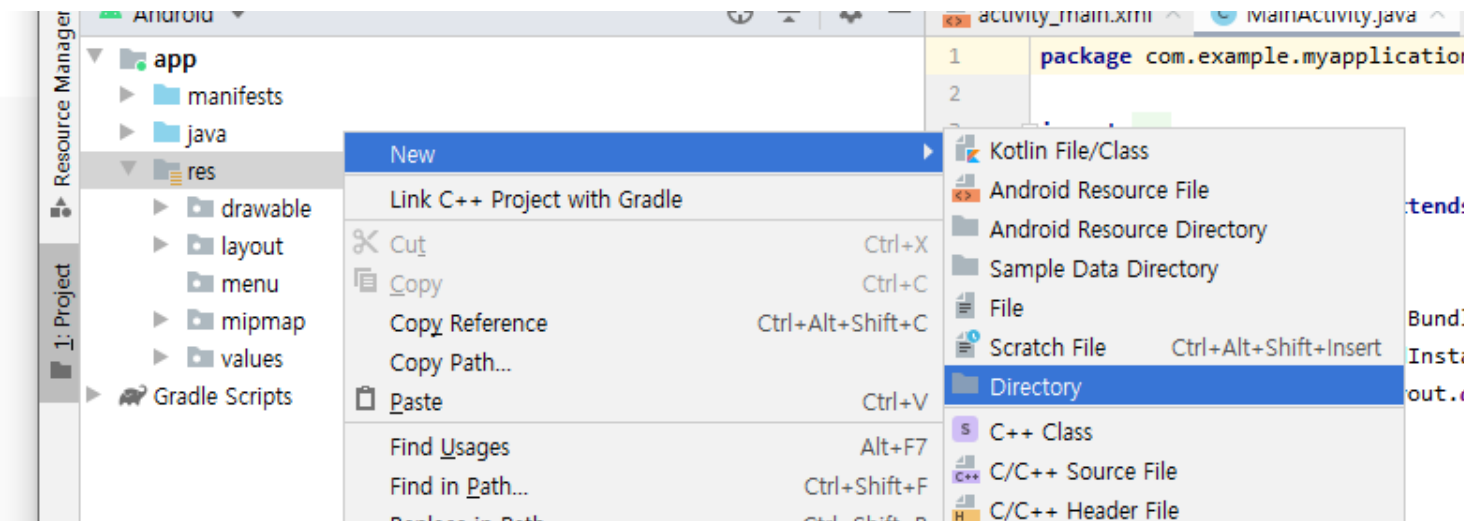
a

실습 순서

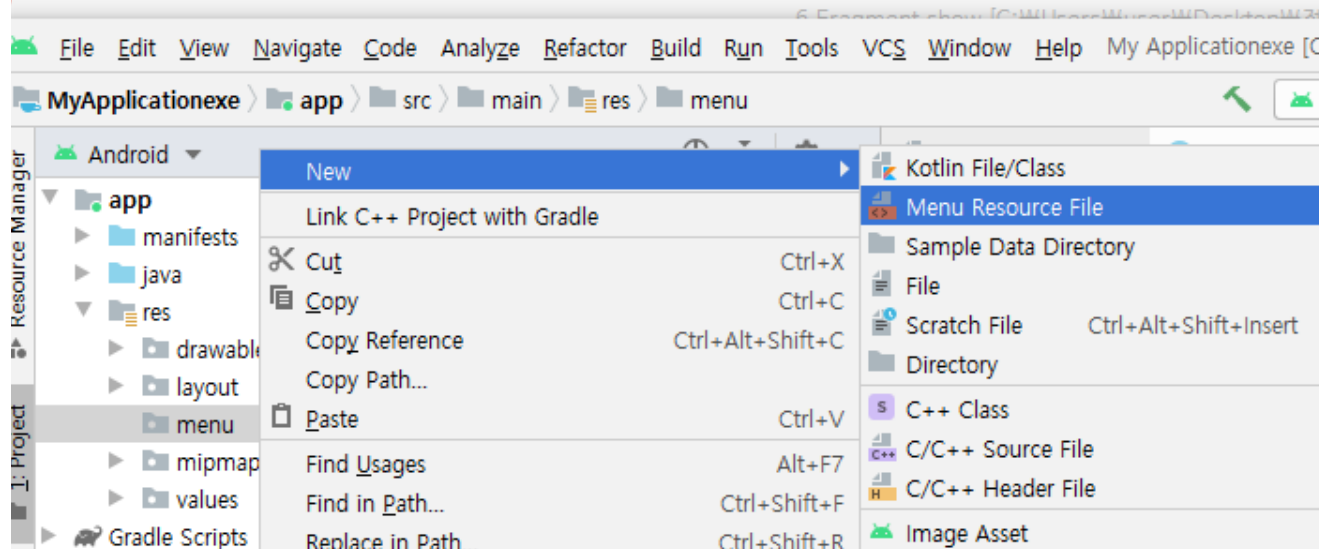
- ▶ fragment1.xml , fragment2.xml , fragment3.xml 추가
- ▶ Fragnnet1.java , Fragnnet2.java , Fragnnet3.java 추가
- ▶ app/res/menu 디렉토리 추가 - menu_bottom.xml 생성
- ▶ munu_botton.xml 작업
- ▶ Activity_main.xml 작업
- ▶ MainActivity.java 작업
- ▶ 에뮬레이터 결과 확인

이전 프로젝트에서 fragment1,2,3.xml Fragmnet1,2,3.java 복사 - 붙여넣기 fragment 1,2,3 의 textView 이메일, 정보, 위치로 수정

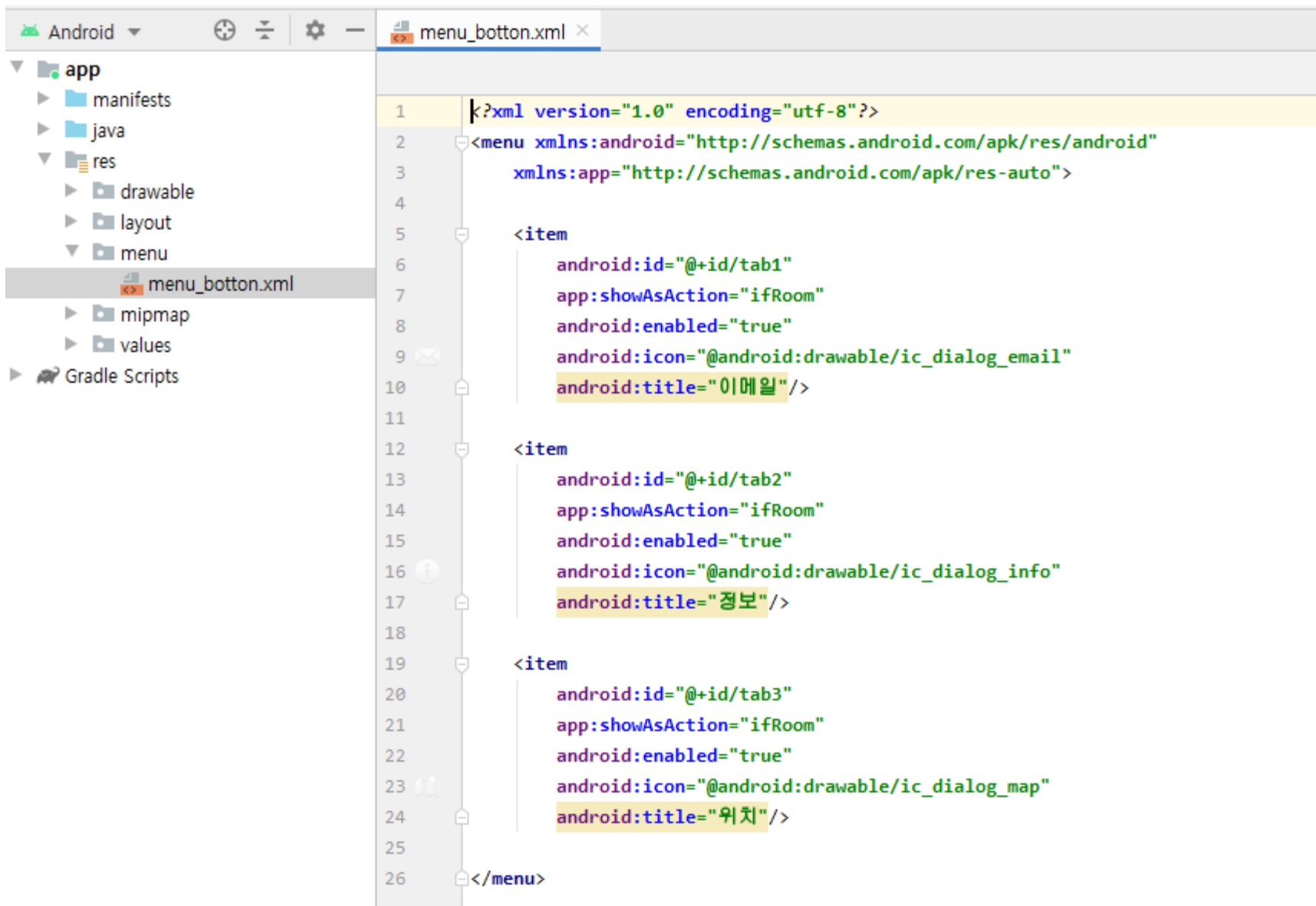




/app/res/아래
menu 디렉토리 생성



menu_botton.xml 파일 생성



Android

app

manifests

java

org.techtown.tab

Fragment1

Fragment2

Fragment3

MainActivity

org.techtown.tab (androidTest)

org.techtown.tab (test)

res

drawable

layout

activity_main.xml

fragment1.xml

fragment2.xml

fragment3.xml

menu

menu_bottom.xml

mipmap

values

Gradle Scripts

menu_bottom.xml

activity_main.xml

```
1 <?xml version="1.0" encoding="utf-8"?>
2 <androidx.constraintlayout.widget.ConstraintLayout xmlns:android="http://schemas.android.com/apk/res/android"
3     xmlns:app="http://schemas.android.com/apk/res-auto"
4     xmlns:tools="http://schemas.android.com/tools"
5     android:layout_width="match_parent"
6     android:layout_height="match_parent"
7     tools:context=".MainActivity">
8     <FrameLayout
9         android:id="@+id/container"
10        android:layout_width="match_parent"
11        android:layout_height="match_parent"
12        app:layout_behavior="com.google.android.material.appbar.AppBarLayout$Scrolli..."/>
13
14    <com.google.android.material.bottomnavigation.BottomNavigationView
15        android:id="@+id/bottom_navigation"
16        android:layout_width="match_parent"
17        android:layout_height="wrap_content"
18        android:layout_marginEnd="0dp"
19        android:layout_marginStart="0dp"
20        app:layout_constraintBottom_toBottomOf="parent"
21        app:layout_constraintLeft_toLeftOf="parent"
22        app:layout_constraintRight_toRightOf="parent"
23        app:itemBackground="@color/colorPrimary"
24        app:itemIconTint="@drawable/item_color"
25        app:itemTextColor="@drawable/item_color"
26        app:menu="@menu/menu_bottom"/>
27 </androidx.constraintlayout.widget.ConstraintLayout>
```

Android

+

-

⚙

—

menu_bottom.xml

activity_main.xml

MainActivity.java

app

manifests

java

org.techtown.tab

Fragment1

Fragment2

Fragment3

MainActivity

org.techtown.tab (androidTest)

org.techtown.tab (test)

res

drawable

layout

activity_main.xml

fragment1.xml

fragment2.xml

fragment3.xml

menu

menu_bottom.xml

mipmap

values

Gradle Scripts

1

2

3

4

5

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17

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19

20

21

22

23

24

```
package org.techtown.tab;

import androidx.annotation.NonNull;
import androidx.appcompat.app.AppCompatActivity;
import android.os.Bundle;
import android.view.MenuItem;
import com.google.android.material.bottomnavigation.BottomNavigationView;

public class MainActivity extends AppCompatActivity {
    Fragment1 fragment1;
    Fragment2 fragment2;
    Fragment3 fragment3;

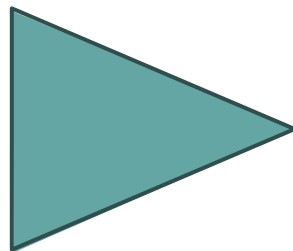
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        fragment1 = new Fragment1();
        fragment2 = new Fragment2();
        fragment3 = new Fragment3();

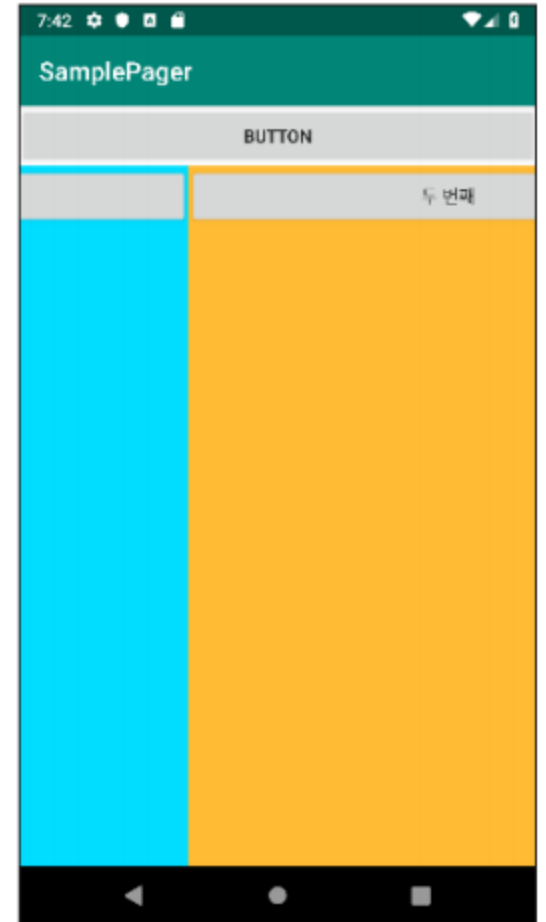
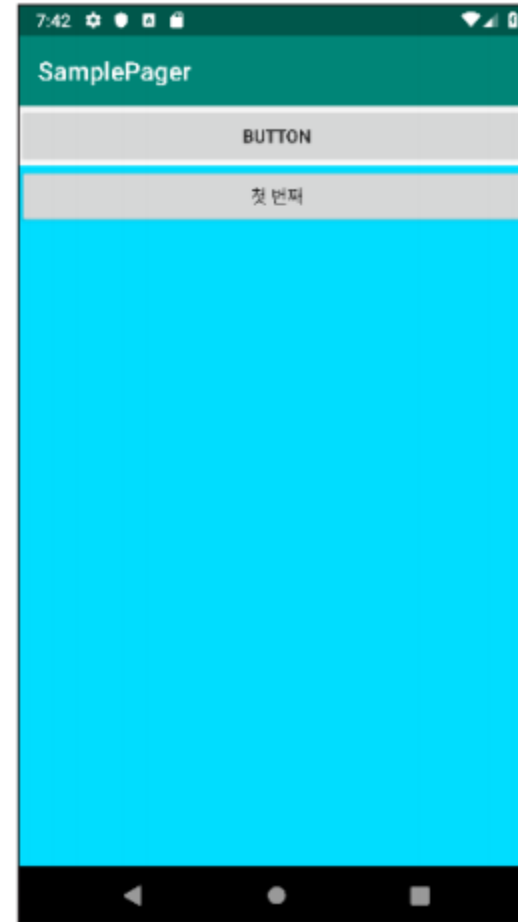
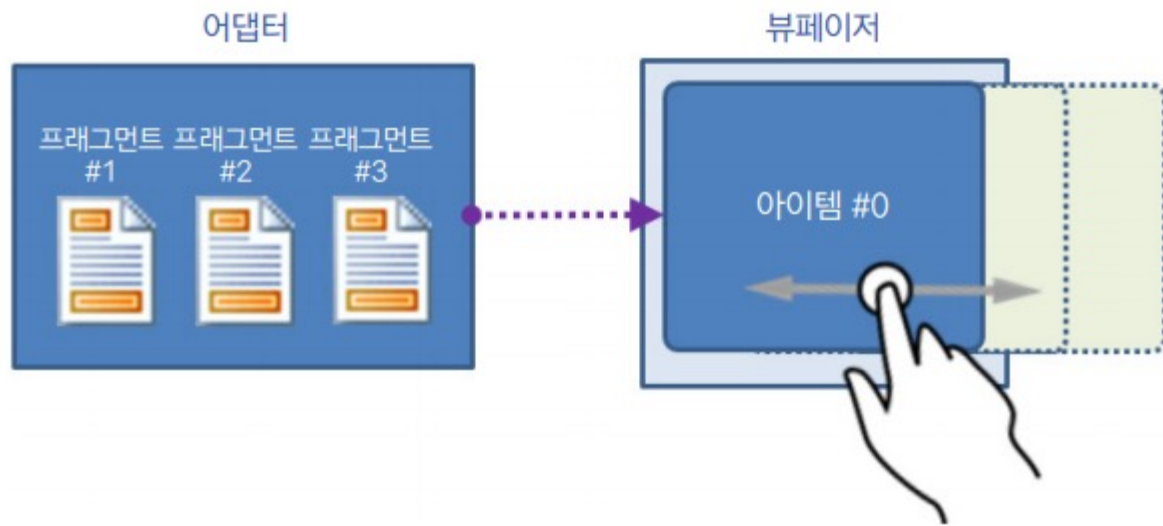
        getSupportFragmentManager().beginTransaction().replace(R.id.container, fragment1).commit();
    }
}
```

```
24
25 BottomNavigationView bottomNavigation = findViewById(R.id.bottom_navigation);
26 bottomNavigation.setOnNavigationItemSelectedListener(
27     new BottomNavigationView.OnNavigationItemSelectedListener() {
28         @Override
29         public boolean onNavigationItemSelected(@NonNull MenuItem item) {
30
31             switch (item.getItemId()) {
32                 case R.id.tab1:
33                     getSupportFragmentManager().beginTransaction().replace(R.id.container, fragment1).commit();
34                     return true;
35                 case R.id.tab2:
36                     getSupportFragmentManager().beginTransaction().replace(R.id.container, fragment2).commit();
37                     return true;
38                 case R.id.tab3:
39                     getSupportFragmentManager().beginTransaction().replace(R.id.container, fragment3).commit();
40                     return true;
41             }
42             return false;
43         }
44     }
45 );
46
47 }
```

에뮬레이터 실행



3 단계



activity_main.xml
MainActivity.java

버튼

fragment1.xml
Fragment1.java

새 프로젝트 이름 : Gs21200csmpager
패키지명 : org.techtown.pager

fragment2.xml
Fragment2.jav

a

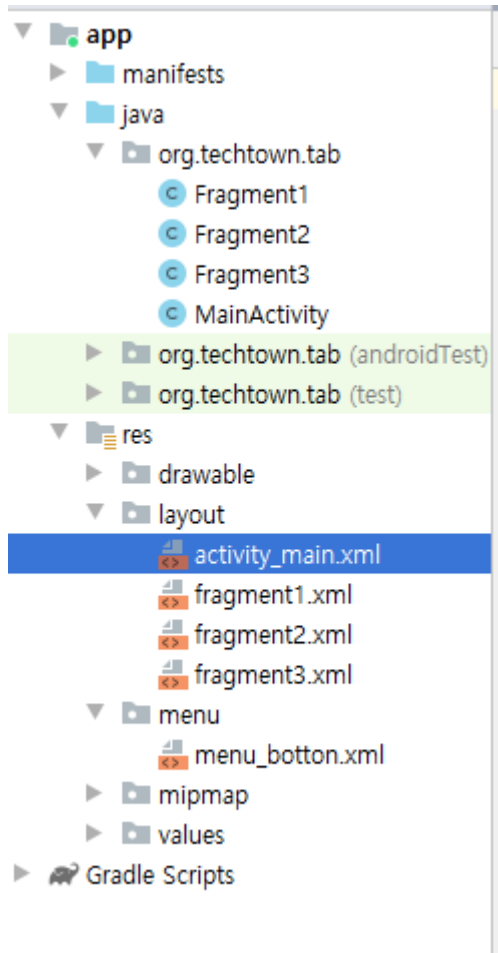
fragment3.xml
Fragment3.jav

a

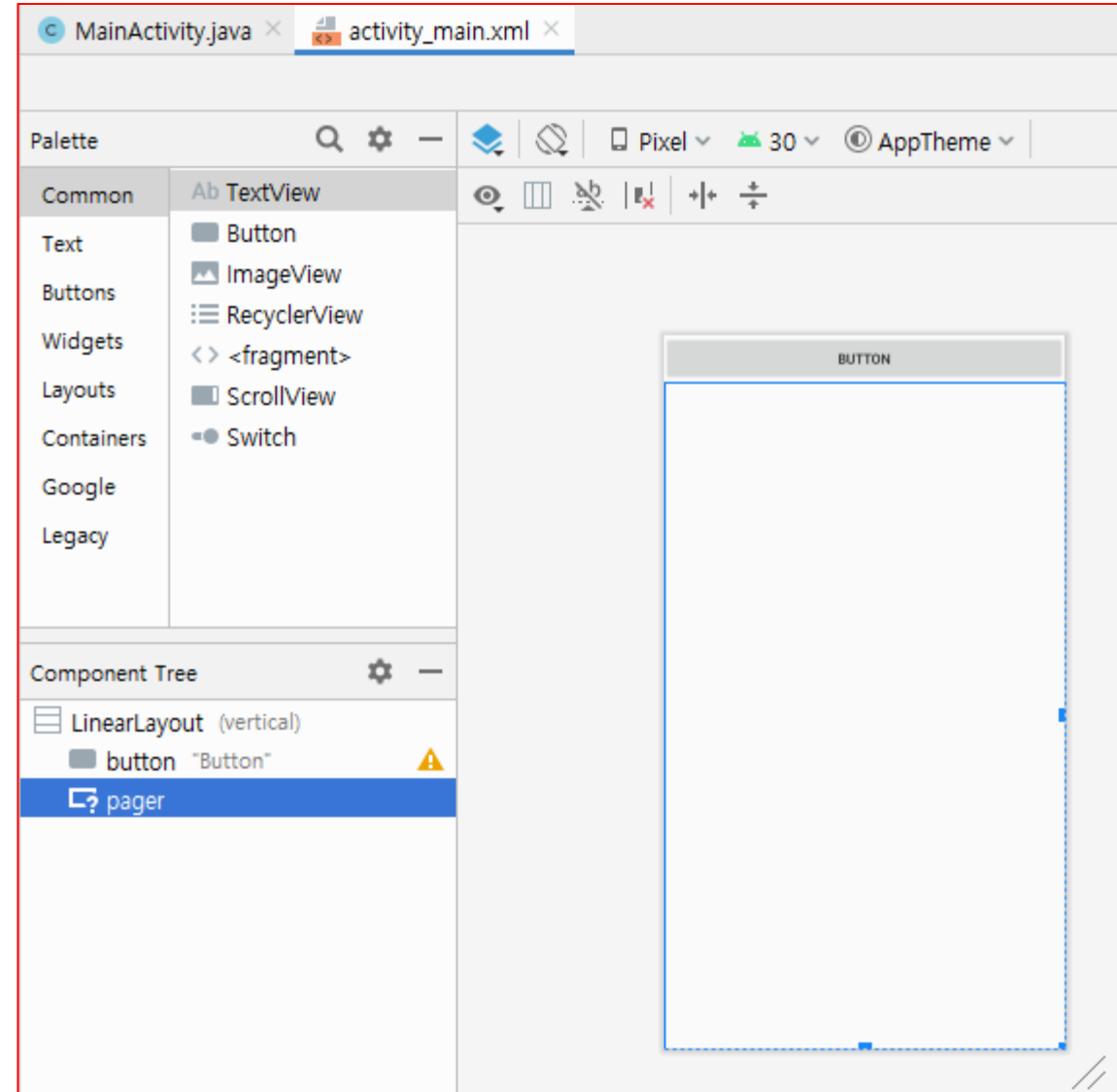
실습 순서

- ▶ fragment1.xml , fragment2.xml , fragment3.xml 추가
- ▶ Fragnnet1.java , Fragnnet2.java , Fragnnet3.java 추가
- ▶ Activity_main.xml 작업
- ▶ MainActivity.java 작업
- ▶ 에뮬레이터 결과 확인

이전 프로젝트에서 fragment1,2,3.xml Fragmnet1,2,3.java 복사 - 붙여넣기



```
MainActivity.java x activity_main.xml x
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   xmlns:tools="http://schemas.android.com/tools"
5   android:layout_width="match_parent"
6   android:layout_height="match_parent"
7   android:orientation="vertical"
8   tools:context=".MainActivity" >
9
10   <Button
11     android:id="@+id/button"
12     android:layout_width="match_parent"
13     android:layout_height="wrap_content"
14     android:text="Button" />
15
16   <androidx.viewpager2.widget.ViewPager2
17     android:id="@+id/pager"
18     android:layout_width="match_parent"
19     android:layout_height="match_parent" />
20 </LinearLayout>
```



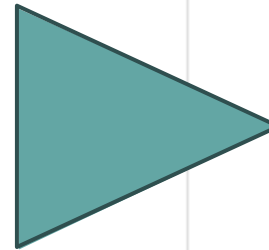
```
1
2     package org.techtown.pager;
3
4     import androidx.annotation.NonNull;
5     import androidx.appcompat.app.AppCompatActivity;
6     import androidx.fragment.app.Fragment;
7     import androidx.fragment.app.FragmentManager;
8     import androidx.fragment.app.FragmentStatePagerAdapter;
9     import androidx.lifecycle.Lifecycle;
10    import androidx.viewpager.widget.PagerAdapter;
11    import androidx.viewpager2.adapter.FragmentStateAdapter;
12    import androidx.viewpager2.widget.ViewPager2;
13
14    import android.os.Bundle;
15    import android.view.View;
16    import android.widget.Button;
17
18    import java.util.ArrayList;
19
20    public class MainActivity extends AppCompatActivity {
21        ViewPager2 pager;
22        @Override
23        protected void onCreate(Bundle savedInstanceState) {
24            super.onCreate(savedInstanceState);
25            setContentView(R.layout.activity_main);
26
27            pager = findViewById(R.id.pager);
28            pager.setOrientation(ViewPager2.ORIENTATION_HORIZONTAL);
```

```

29     pager.setOffscreenPageLimit(3);
30
31     MyPagerAdapter adapter = new MyPagerAdapter(getSupportFragmentManager(), getLifecycle());
32     pager.setAdapter(adapter);
33
34     Button button = findViewById(R.id.button);
35     button.setOnClickListener(new View.OnClickListener() {
36         @Override
37         public void onClick(View view){
38             pager.setCurrentItem(1);
39         }
40     });
41 }
42 class MyPagerAdapter extends FragmentStateAdapter {
43     int itemCount = 3;
44     public MyPagerAdapter(FragmentManager fm, Lifecycle cycle) { super(fm, cycle); }
45
46     @Override
47     public int getItemCount() { return itemCount; }
48
49     @NonNull
50     @Override
51     public Fragment createFragment(int position) {
52         switch(position) {
53             case 0: {
54                 return new Fragment1();
55             }
56             case 1: {
57                 return new Fragment2();
58             }
59         }
60     }

```

에뮬레이터 실행



```

61     case 2: {
62         return new Fragment3();
63     }
64 }
65     return new Fragment1();
66 }
67 }
68 }
69

```

과제_10

앞의 단계 1,2,3을 합쳐서 하나의 앱에서 작동하도록 하세요.

상위탭 세개 클릭-> 하위탭 세개 클릭->
뷰페이지 세번 실행의 과정을 녹화

모두 합치지 못할 경우 가능한 것만 녹화하여 제출

부분 점수 인정

모두 함께 실행:100

2개 함께 실행: 90

파일저장은 21XX아무개실습9

각각 실행: 80

제시간에 제출했을 경우이며, 늦을 경우 추가 감점