Android Studio

Building Apps with Multiple Activities

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One2ManyActivity App   -   Goal

Launching two activities from other activity (called main activity) and passing data from main activity to secondary activities:
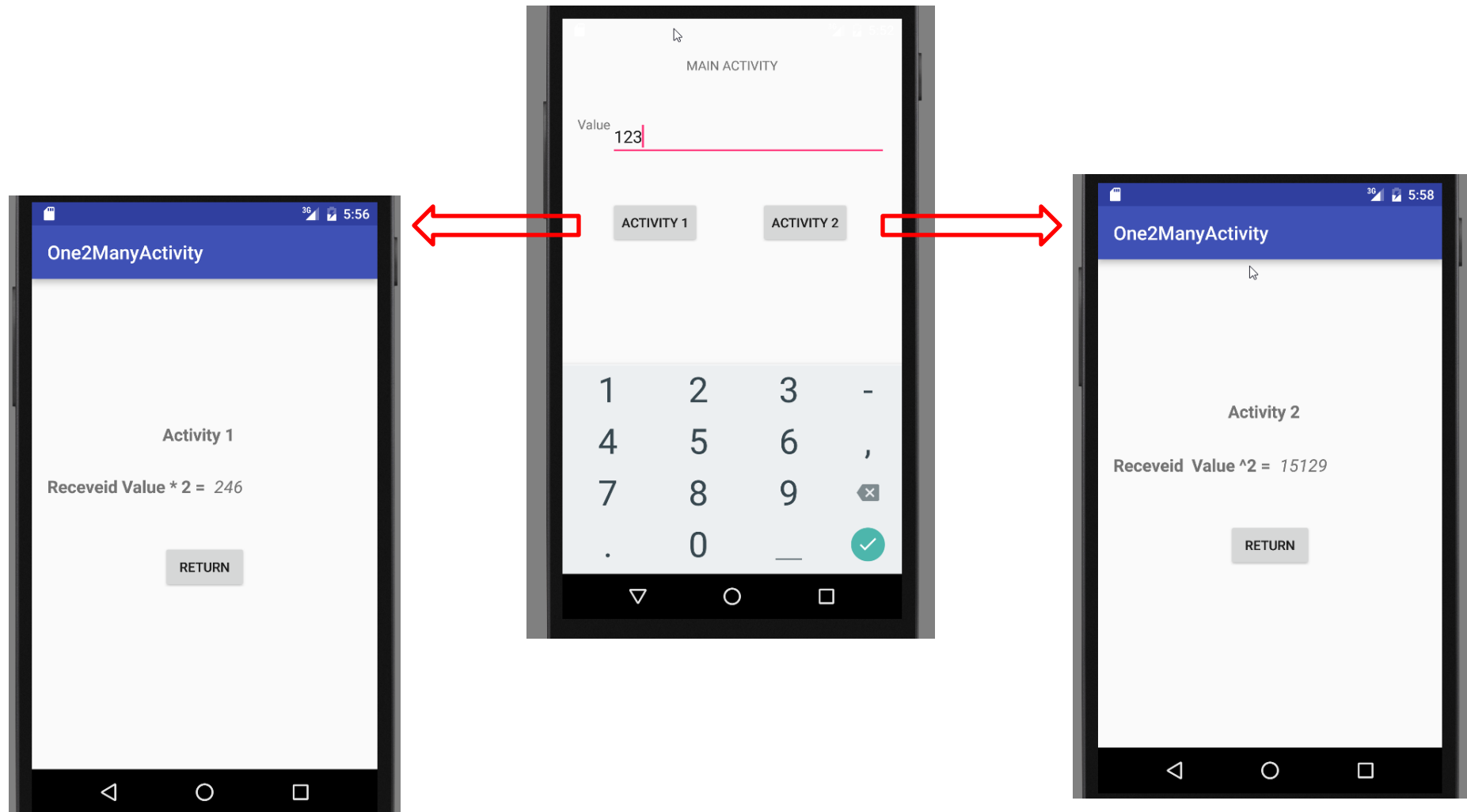
One2ManyActivity App   - The Main Steps

1. Create a standard Android Studio project. Name it *One2ManyActivity*, with a Blank Activity.

2. Add Button, EditText and TextView into *activity_main.xml.*

3. In src > main > java > add new fragments activity classes: *FirstActivity.java* and *SecondActivity.java.*

4. In src > main > res > layout > add new layout xml files for fragments: *activity_first.xml* and *activity_second.xm*l. After, add Button and TextView for each of them.

5. Rewrite *MainActivity.java* code in accordance with the requirements of the app.

6. Finaly, Run and test the app.
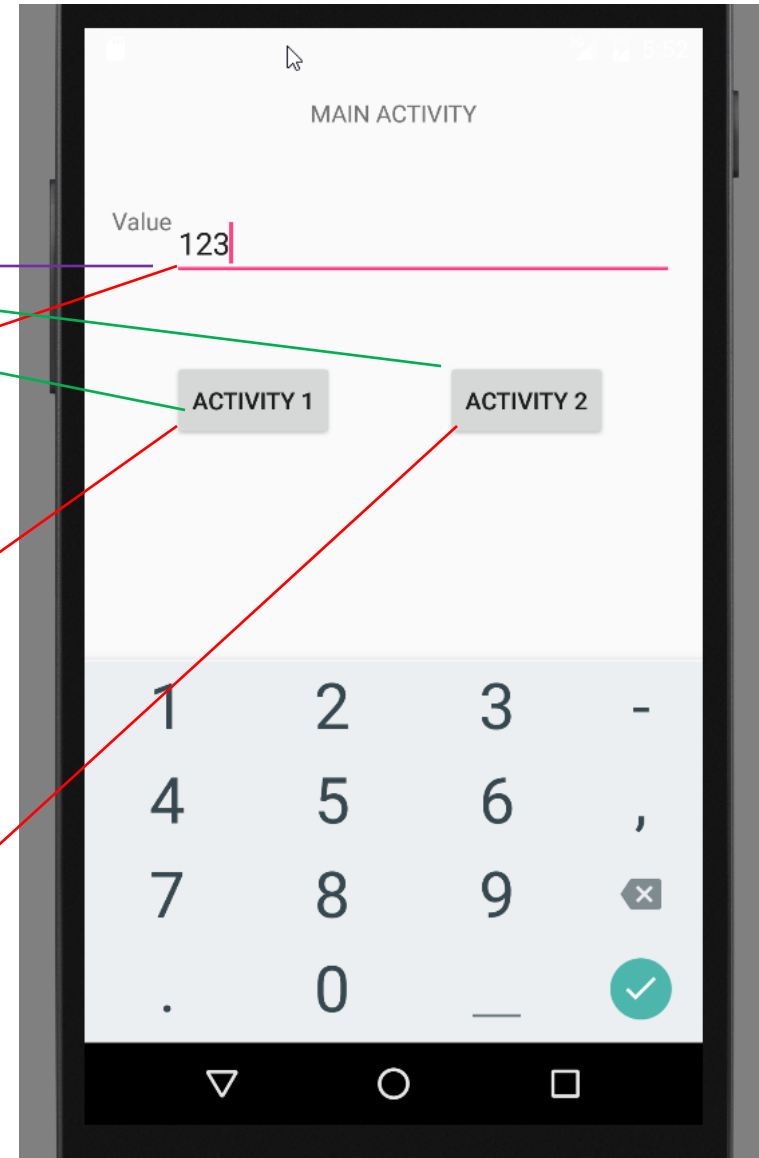
One2ManyActivity App   - *MainActivity.java*

```java
package com.example.mafteiu_scai.one2manyactivity;
import android.content.Intent;
import android.support.v7.app.ActionBarActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends ActionBarActivity {
    Button button1, button2;
    EditText editTextInt;
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);

        button1 = (Button) findViewById(R.id.btnCall1);
        button2 = (Button) findViewById(R.id.btnCall2);
        editTextInt = (EditText) findViewById(R.id.editText2);

        button1.setOnClickListener(new View.OnClickListener() {
            public void onClick(View view) {
              Integer i =Integer.parseInt(editTextInt.getText().toString());
                //the first activity name
                Intent intent = new Intent(getApplicationContext(),FirstActivity.class);
                // pass value to Activity 1.
                intent.putExtra("Int",i );
                startActivity(intent);
            }
        });

        button2.setOnClickListener(new View.OnClickListener() {
            public void onClick(View view) {
              Integer i =Integer.parseInt(editTextInt.getText().toString());
                //the second activity name
                Intent intent = new Intent(getApplicationContext(),SecondActivity.class);
                //pass value to Activity 2.
                intent.putExtra("Int",i );
                startActivity(intent);
            }
        });
    }
}
```

One2ManyActivity **App** - *MainActivity.java*

```java
package com.example.mafteiu_scai.one2manyactivity;
import android.content.Intent;
import android.support.v7.app.ActionBarActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;

public class MainActivity extends ActionBarActivity {
    Button button1, button2;
    EditText editTextInt;
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        button1 = (Button) findViewById(R.id.btnCall1);
        button2 = (Button) findViewById(R.id.btnCall2);
        editTextInt = (EditText) findViewById(R.id.editText2);
        button1.setOnClickListener(new View.OnClickListener() {
            public void onClick(View view) {
                Integer i =Integer.parseInt(editTextInt.getText().toString());
                //the first activity name
                Intent intent = new Intent(getApplicationContext(),FirstActivity.class);
                intent.putExtra("Int",i );
                startActivity(intent);
            }
        });
        button2.setOnClickListener(new View.OnClickListener() {
            public void onClick(View view) {
                Integer i =Integer.parseInt(editTextInt.getText().toString());
                //the second activity name
                Intent intent = new Intent(getApplicationContext(),SecondActivity.class);
                //pass value to Activity 2.
                intent.putExtra("Int",i );
                startActivity(intent);
            }
        });
    }
}
```

An **Intent** is a messaging object used to request an action from another app component. More: http://developer.android.com/guide/components/intents-filters.html

getApplicationContext returns the context for the entire application (the process all the Activities are running inside of). Use this instead of the current Activity context if you need a context tied to the lifecycle of the entire application, not just the current Activity.
A *Context* is an entity that represents various environment data. It provides access to local files, databases, class loaders associated to the environment, services including system-level services, and more.

pass value *i* (from editText2) to Activity 1.

start a new activity after button1 was pressed

All activities are also specified in AndroidManifest.xml file:
```xml
<activity
    android:name=".MainActivity"
    android:label="@string/app_name"
    android:theme="@style/AppTheme.NoActionBar" >
    <intent-filter>
        <action android:name="android.intent.action.MAIN" />
        <category android:name="android.intent.category.LAUNCHER" />
    </intent-filter>
</activity>
<activity android:name=".FirstActivity" >
</activity>
<activity android:name=".SecondActivity" >
</activity>
```

One2ManyActivity **App**   - *FirstActivity.java* (similar for SecondActivity.java)

```java
package com.example.mafteiu_scai.one2manyactivity;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.content.Intent;
import android.view.View;
import android.widget.TextView;

public class FirstActivity extends AppCompatActivity {
    TextView txtInteger;

    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_first);
        txtInteger = (TextView) findViewById(R.id.textView4);
        //read data from main ctivity
        Intent intent = getIntent();
        Integer i = intent.getIntExtra("Int", 0);
        i=2*i;
        txtInteger.setText(i.toString());

        findViewById(R.id.btnClose).setOnClickListener( new
View.OnClickListener() {

            public void onClick(View v) {
                //close Activity 1 and return to main activity
                finish();
            }
        });
    }
}
```
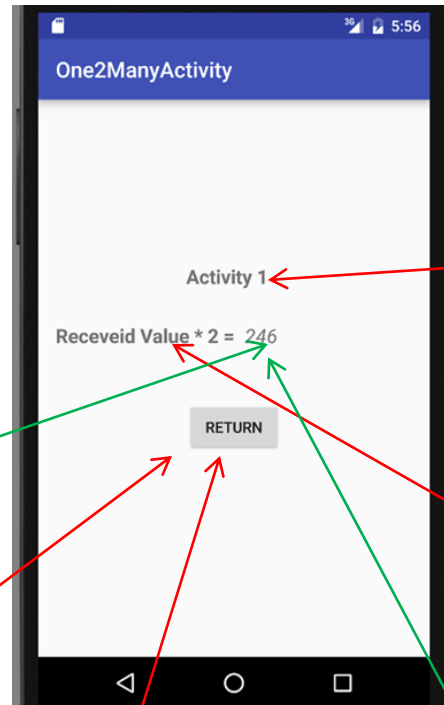
Finish the curent/secondary activity

```xml
<Button
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:text="Return"
    android:id="@+id/btnClose"
    android:layout_marginTop="48dp"
    android:layout_below="@+id/textView4"
    android:layout_centerHorizontal="true" />

</RelativeLayout>
```

```xml
<RelativeLayout 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:paddingLeft="@dimen/activity_horizontal_margin"
    android:paddingRight="@dimen/activity_horizontal_margin"
    android:paddingTop="@dimen/activity_vertical_margin"
    android:paddingBottom="@dimen/activity_vertical_margin">

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textAppearance="?android:attr/textAppearanceMedium"
    android:text="Activity 1"
    android:id="@+id/textView"
    android:layout_marginTop="134dp"
    android:textStyle="bold"
    android:layout_alignParentTop="true"
    android:layout_alignStart="@+id/btnClose" />

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textAppearance="?android:attr/textAppearanceMedium"
    android:text="Receveid Value * 2 = "
    android:id="@+id/textView2"
    android:textStyle="bold"
    android:layout_below="@+id/textView"
    android:layout_alignParentStart="true"
    android:layout_marginTop="30dp" />

<TextView
    android:layout_width="wrap_content"
    android:layout_height="wrap_content"
    android:textAppearance="?android:attr/textAppearanceMedium"
    android:id="@+id/textView4"
    android:layout_alignTop="@+id/textView2"
    android:textStyle="italic"
    android:layout_alignParentRight="true"
    android:layout_alignParentEnd="true"
    android:layout_toRightOf="@+id/textView2"
    android:paddingLeft="5dp" />
```
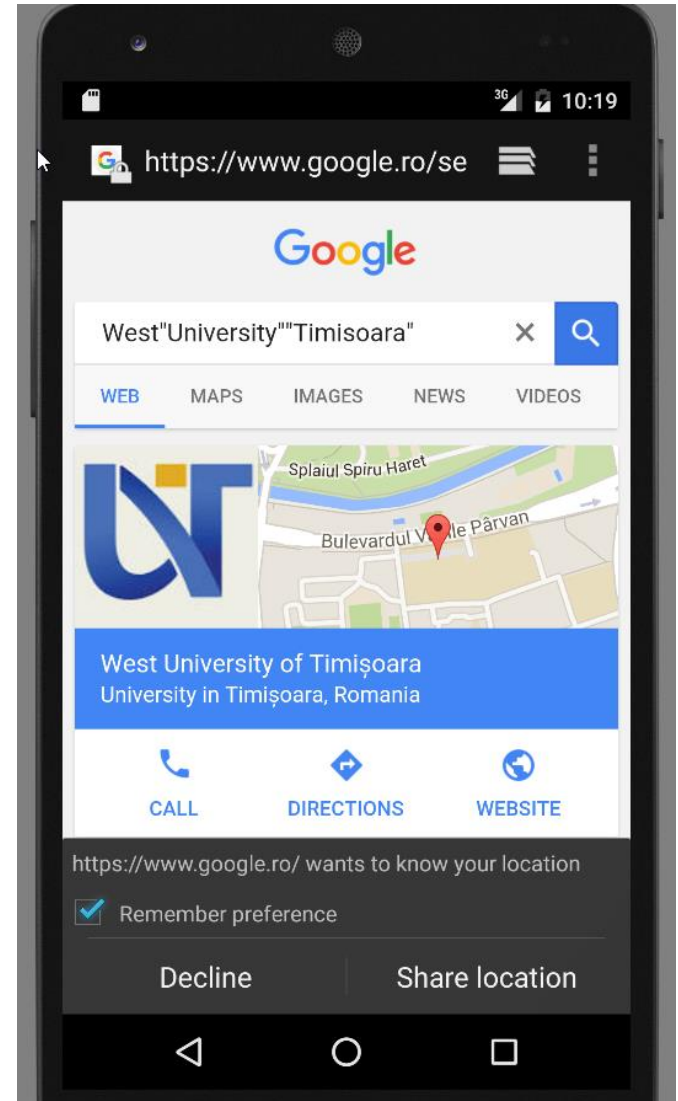
One2ManyActivity

Activity 1

Receveid Value * 2 = 246

RETURN

BrowserSearch App   - Goal

Launches a search process from a browser

UVT CS
IE3-2015
dr. MSLO

BrowserSearch App   - MainActivity.java

```java
package com.example.mafteiu_scai.browsersearch;
import android.app.Activity;
import android.os.Bundle;
import android.view.View;
import android.webkit.WebView;
import android.widget.CheckBox;
public class MainActivity extends Activity {
    CheckBox placeBox, titleBox, cityBox;
    WebView webView;
protected void onCreate(Bundle savedInstanceState) {
    super.onCreate(savedInstanceState);
    setContentView(R.layout.activity_main);
    placeBox = (CheckBox) findViewById(R.id.checkBox);
    titleBox = (CheckBox) findViewById(R.id.checkBox2);
    cityBox = (CheckBox) findViewById(R.id.checkBox3);
    webView = (WebView) findViewById(R.id.webView);
  }
    public void onButtonClick(View view) {
    StringBuilder str = new StringBuilder("");
    if (placeBox.isChecked()) {
      str.append("West");
    }
    if (titleBox.isChecked()) {
       str.append("\"University\"");
    }
    if (cityBox.isChecked()) {
       str.append("\"Timisoara\"");
    }
    if (str.length() == 16) {          str.insert(4, '+');        }
    if (str.length() == 21) {          str.insert(10, '+');       }
    if (str.length() == 26) {  str.insert(4, '+');    str.insert(17, '+'); }
    if (str.length() == 0){ str.append("Universitate  Timisoara"); }
    webView.loadUrl
         ("http://www.google.com/search?q=" + str.toString());
  }
}
```

!
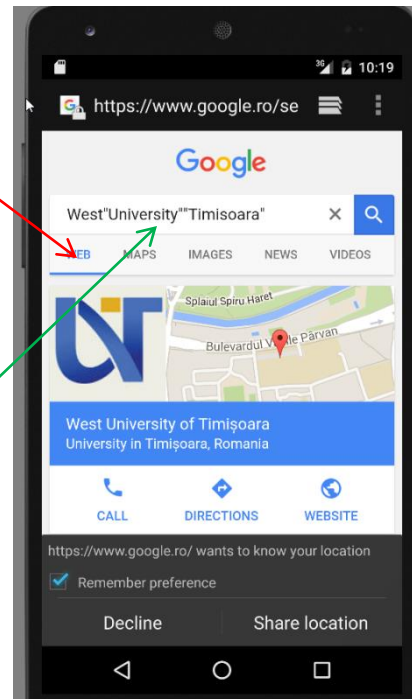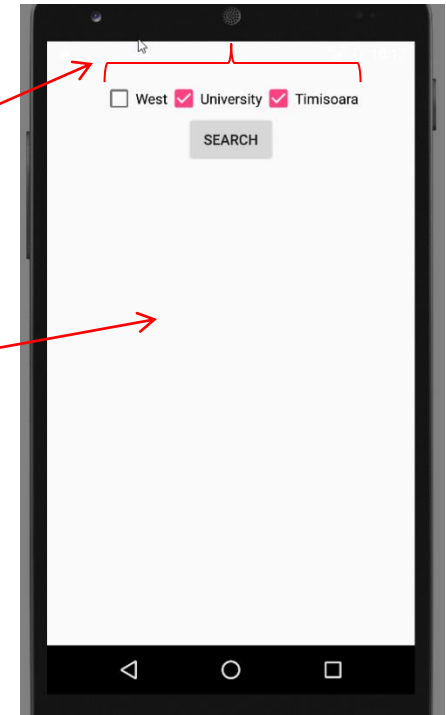
BrowserSearch App — activity_main.xml & reusable_layout.xml

```xml
<RelativeLayout
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:paddingLeft="@dimen/activity_horizontal_margin"
   android:paddingRight="@dimen/activity_horizontal_margin"
   android:paddingTop="@dimen/activity_vertical_margin"
   android:paddingBottom="@dimen/activity_vertical_margin"
   tools:context=".MainActivity">

   <include
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      layout="@layout/reusable_layout"
      android:layout_alignParentTop="true"
      android:layout_alignParentRight="true"
      android:layout_alignParentEnd="true"
      android:layout_alignParentLeft="true"
      android:layout_alignParentStart="true"
      android:id="@+id/include"/>

   <WebView
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:id="@+id/webView"
      android:layout_below="@+id/include"
      android:layout_centerHorizontal="true"/>
</RelativeLayout>
```

```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:orientation="vertical"
   android:layout_width="wrap_content"
   android:layout_height="wrap_content"
   android:layout_alignParentTop="true"
   android:layout_centerHorizontal="true"
   android:gravity="center_horizontal"
   tools:showIn="@layout/activity_main">

   <LinearLayout
      android:orientation="horizontal"
      android:layout_width="match_parent"
      android:layout_height="wrap_content"
      android:layout_gravity="center_horizontal"
      android:gravity="center_horizontal">
      <CheckBox
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:text="West"
         android:id="@+id/checkBox"
         android:checked="false"/>
      <CheckBox
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:text="University"
         android:id="@+id/checkBox2"
         android:checked="false"/>
      <CheckBox
         android:layout_width="wrap_content"
         android:layout_height="wrap_content"
         android:text="Timisoara"
         android:id="@+id/checkBox3"
         android:checked="false" />
   </LinearLayout>

   <Button
      android:layout_width="wrap_content"
      android:layout_height="wrap_content"
      android:text="Search"
      android:id="@+id/button"
      android:layout_gravity="center_horizontal"
      android:onClick="onButtonClick"/>

</LinearLayout>
```

Ta-Ta for now!