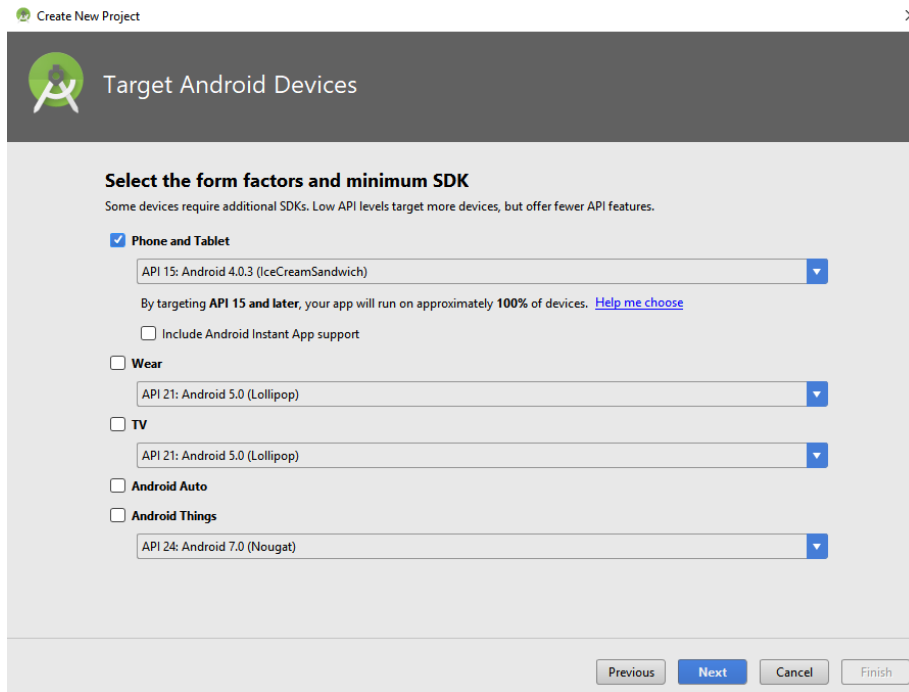# App: US Dollar to Japanese Yen Converter

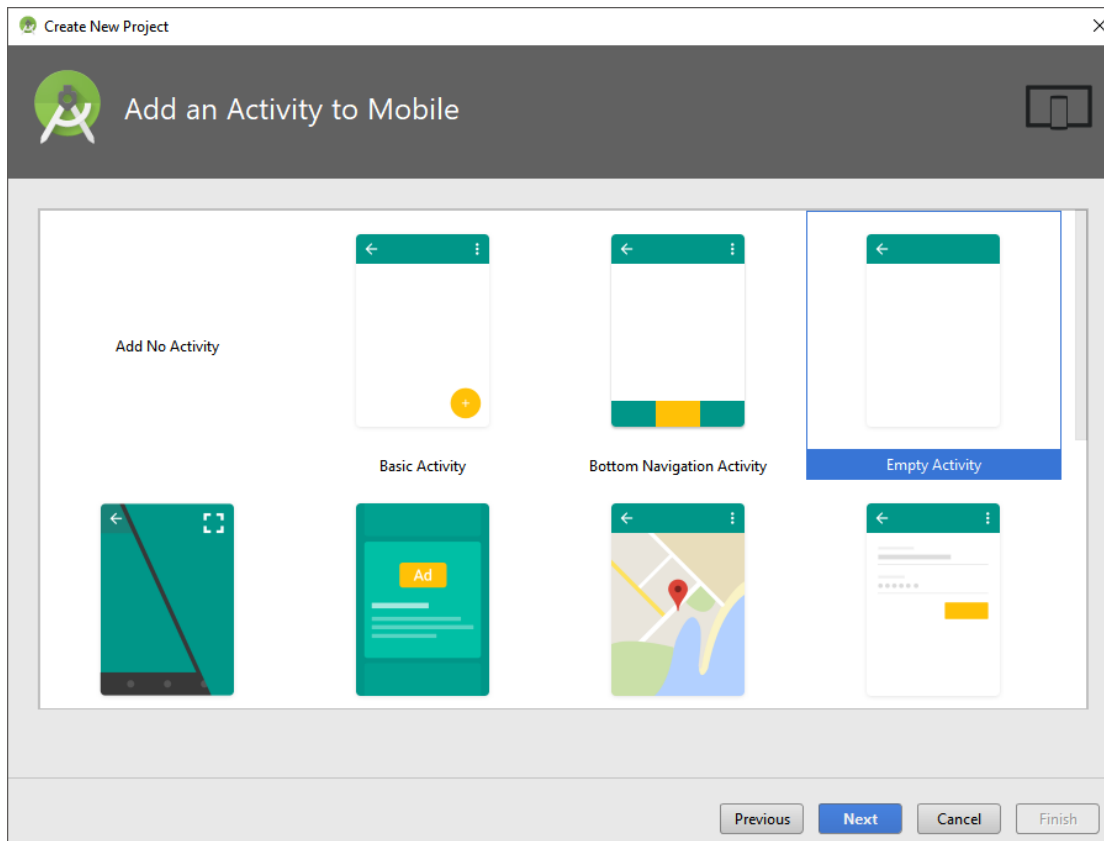1. Click Android Studio icon, and begin to create new project
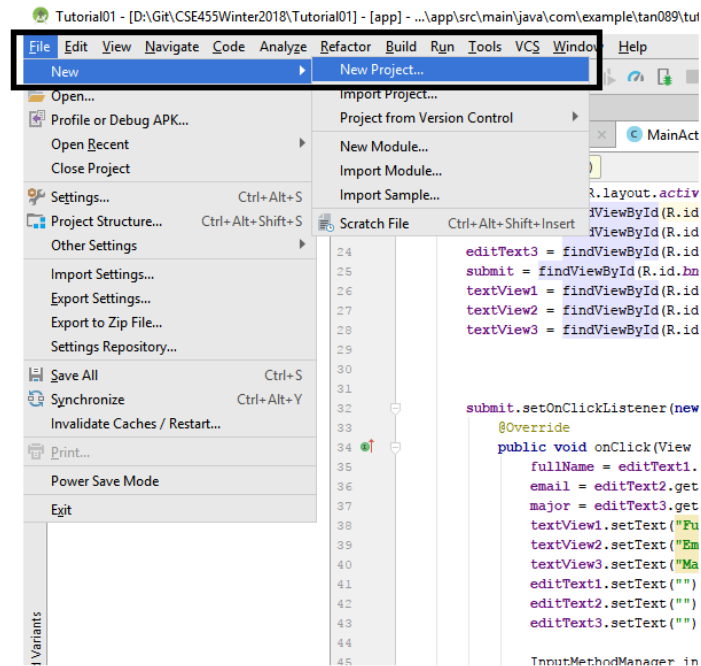
2. After creating new project, name it, and choose the location to save it. Then click Next
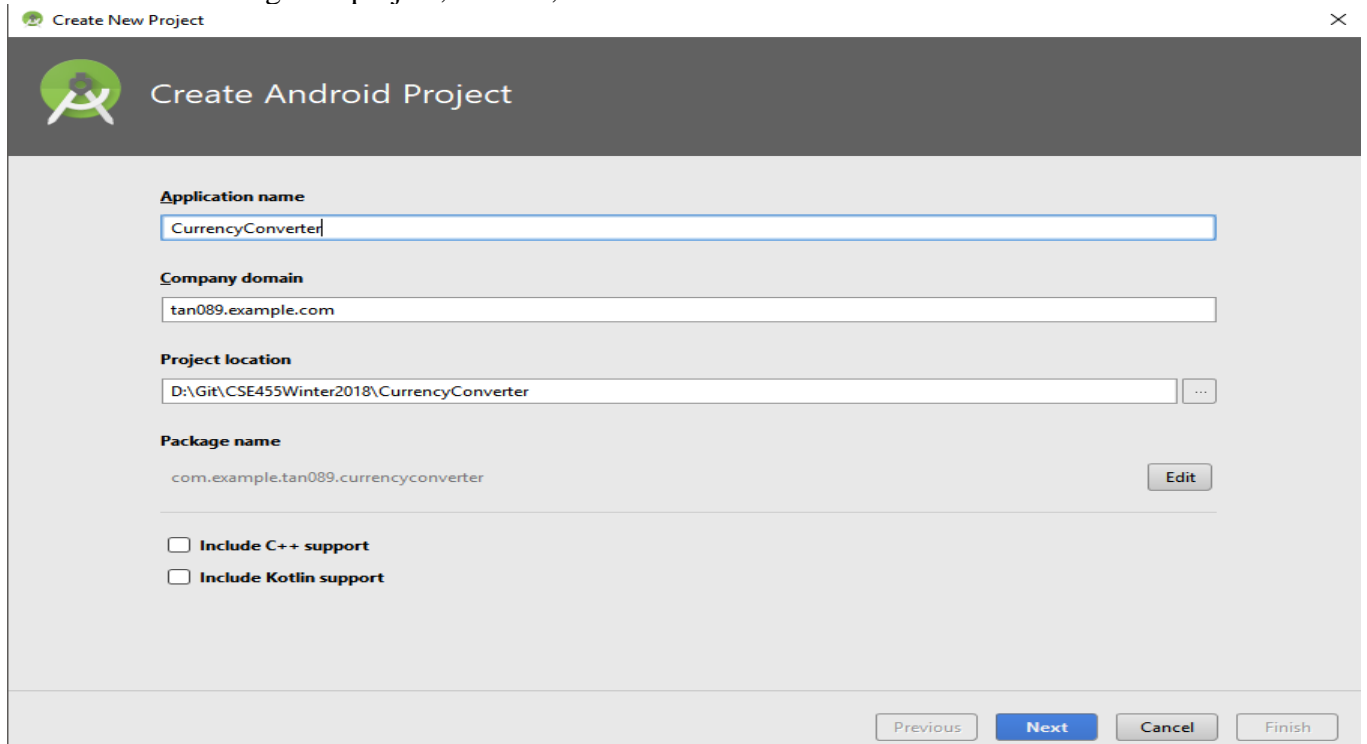
3. Choose minimum SDK, and click Next

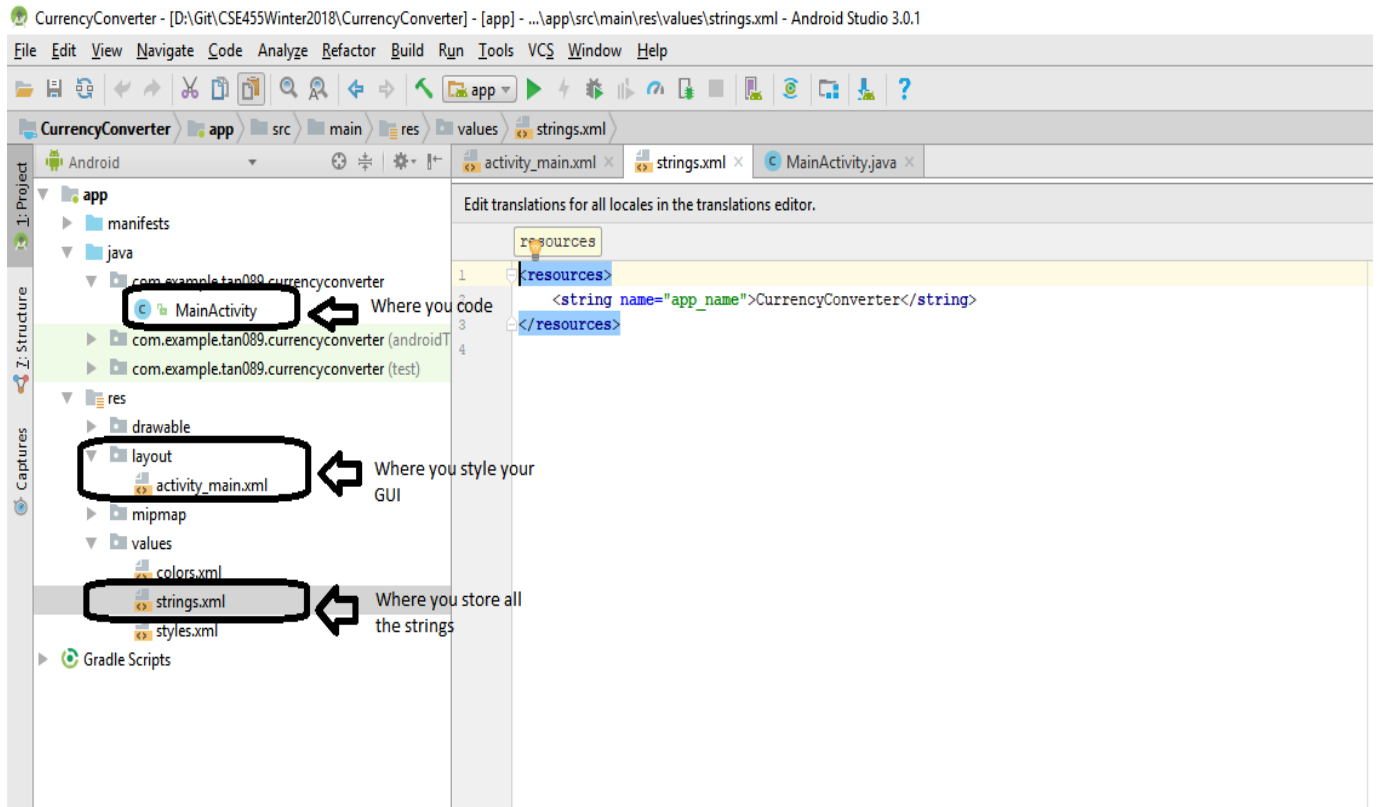4. Choose an activity. For this example, I choose Empty activity. Click Next

5. Name the activity (your choice to name it). Click Finish
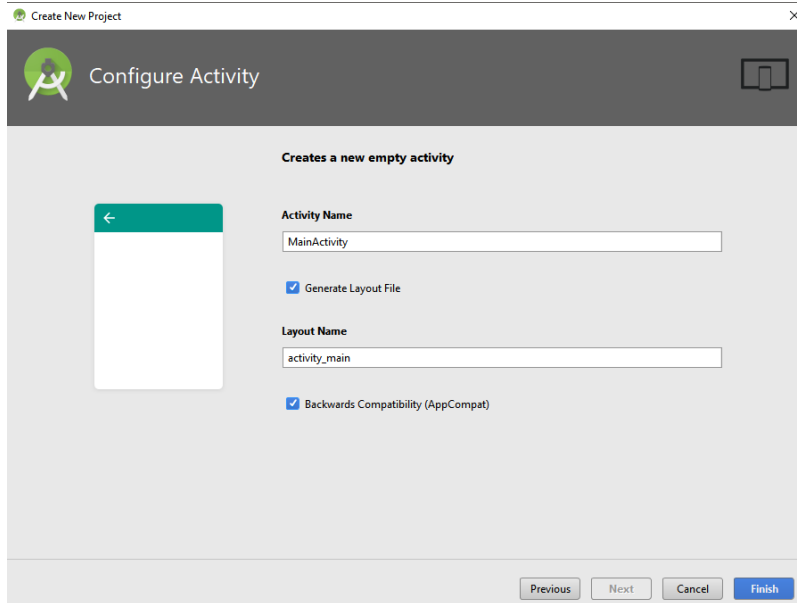
6. In this example, there will be 3 files that you need to pay attention to. The source code for each file will be provided at the end of this tutorial.

7. Click strings.xml to make some strings that we will use later
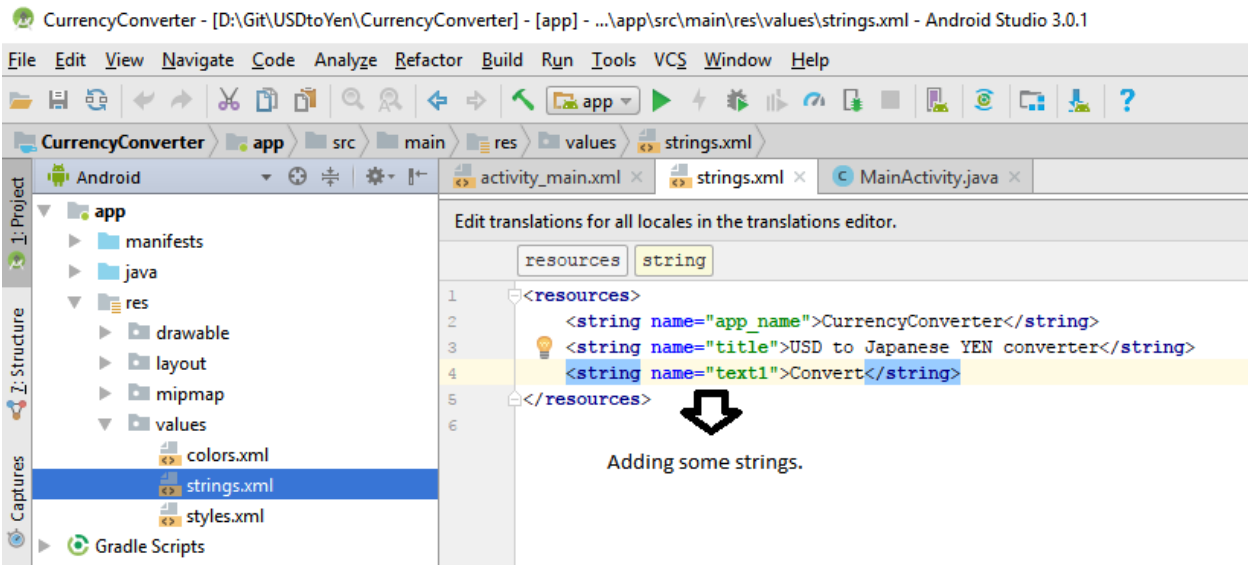
8. Click activity_main.xml to style the GUI
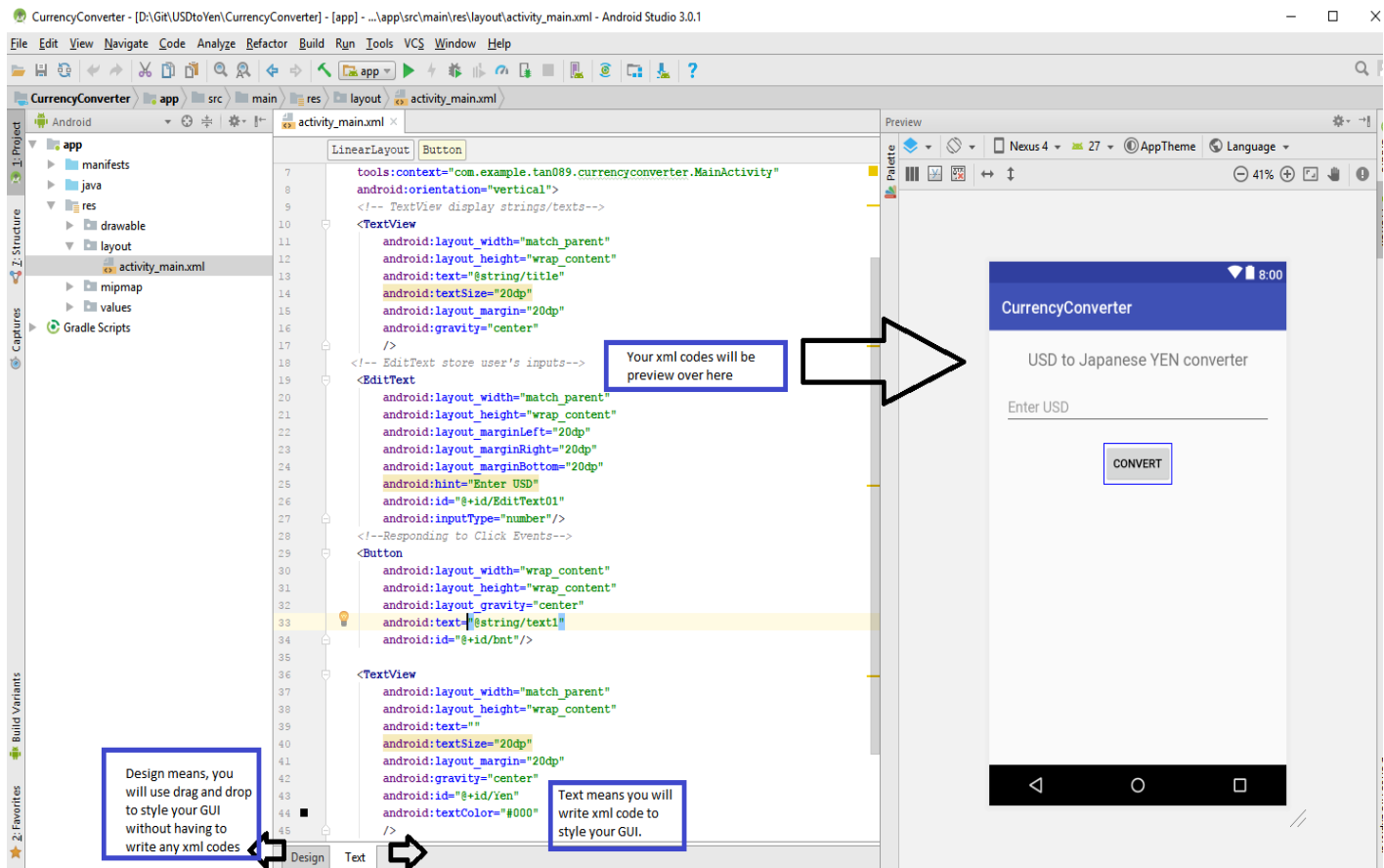
9. Click MainActivity to start coding, make the app functioning.
10. Run your app

11. For those that uses Android Studio for the first time, you need to create new virtual device.

12. Click OK to run the app on the virtual device (simulator.) Try to insert any number, then click convert, you will see the result

13. Source codes

Strings.xml

```xml
<resources>
    <string name="app_name">CurrencyConverter</string>
    <string name="title">USD to Japanese YEN converter</string>
    <string name="text1">Convert</string>
</resources>
```
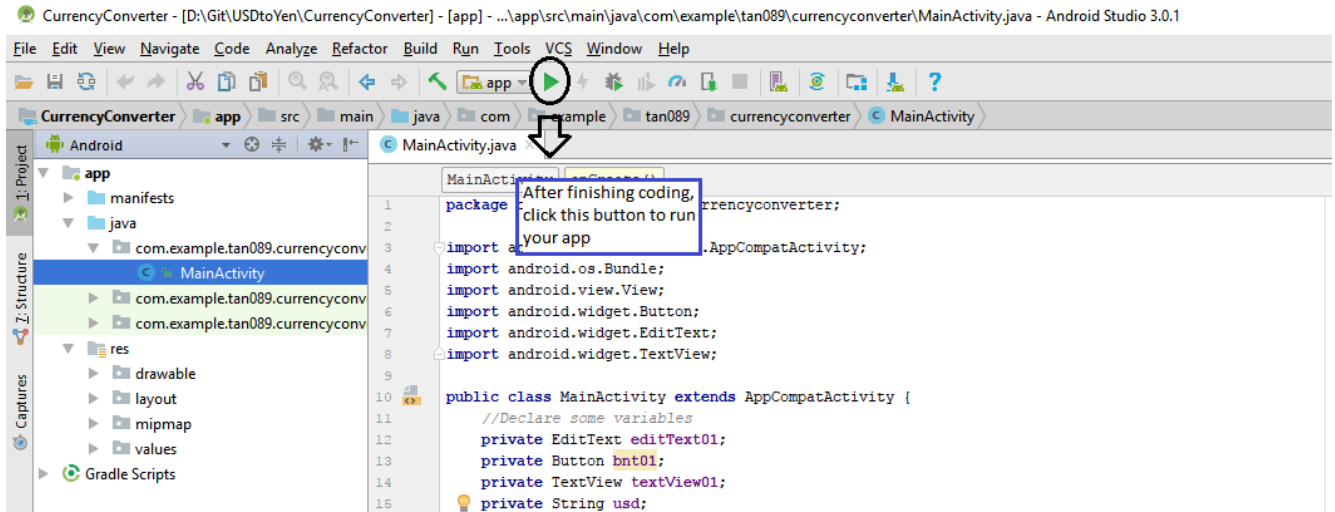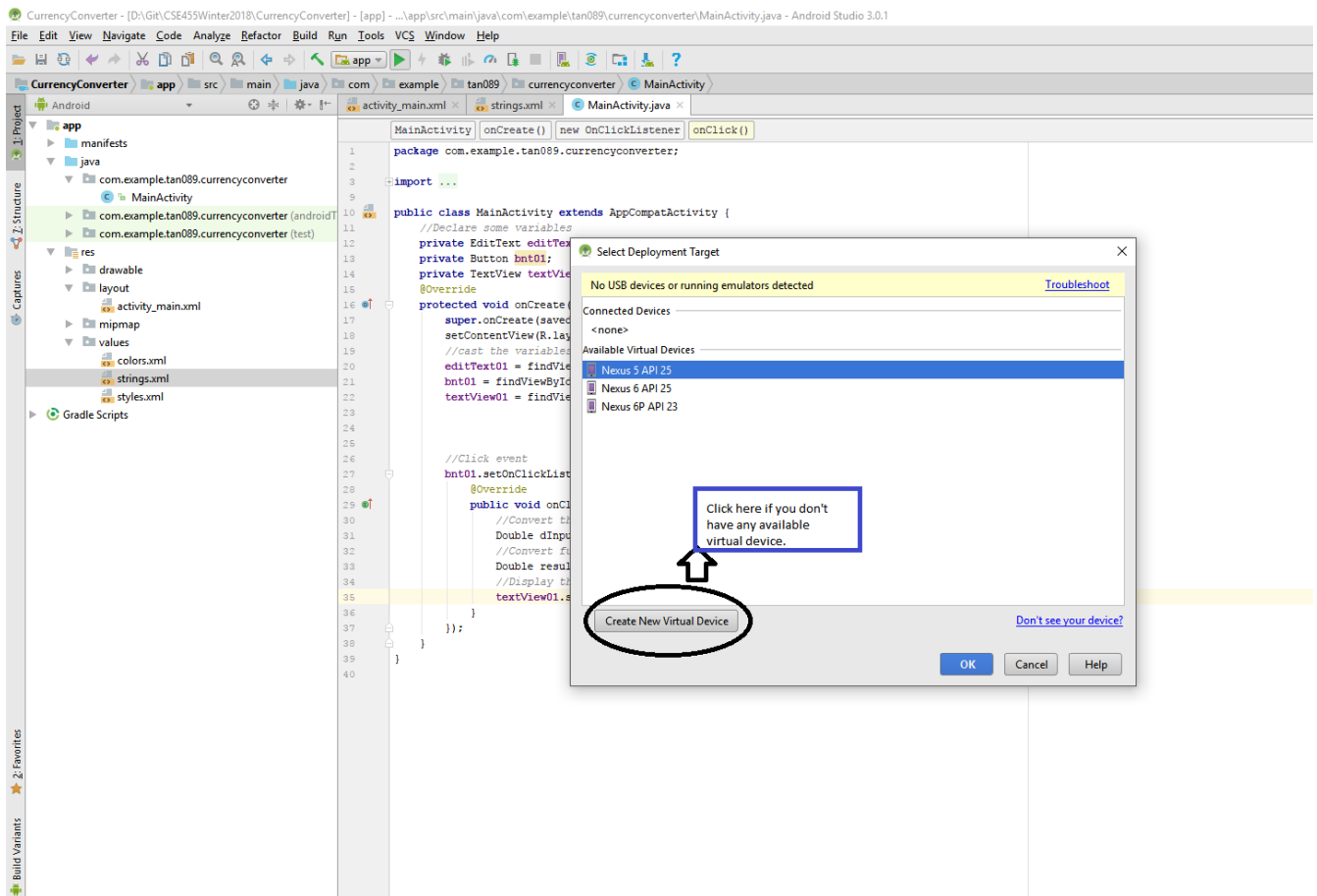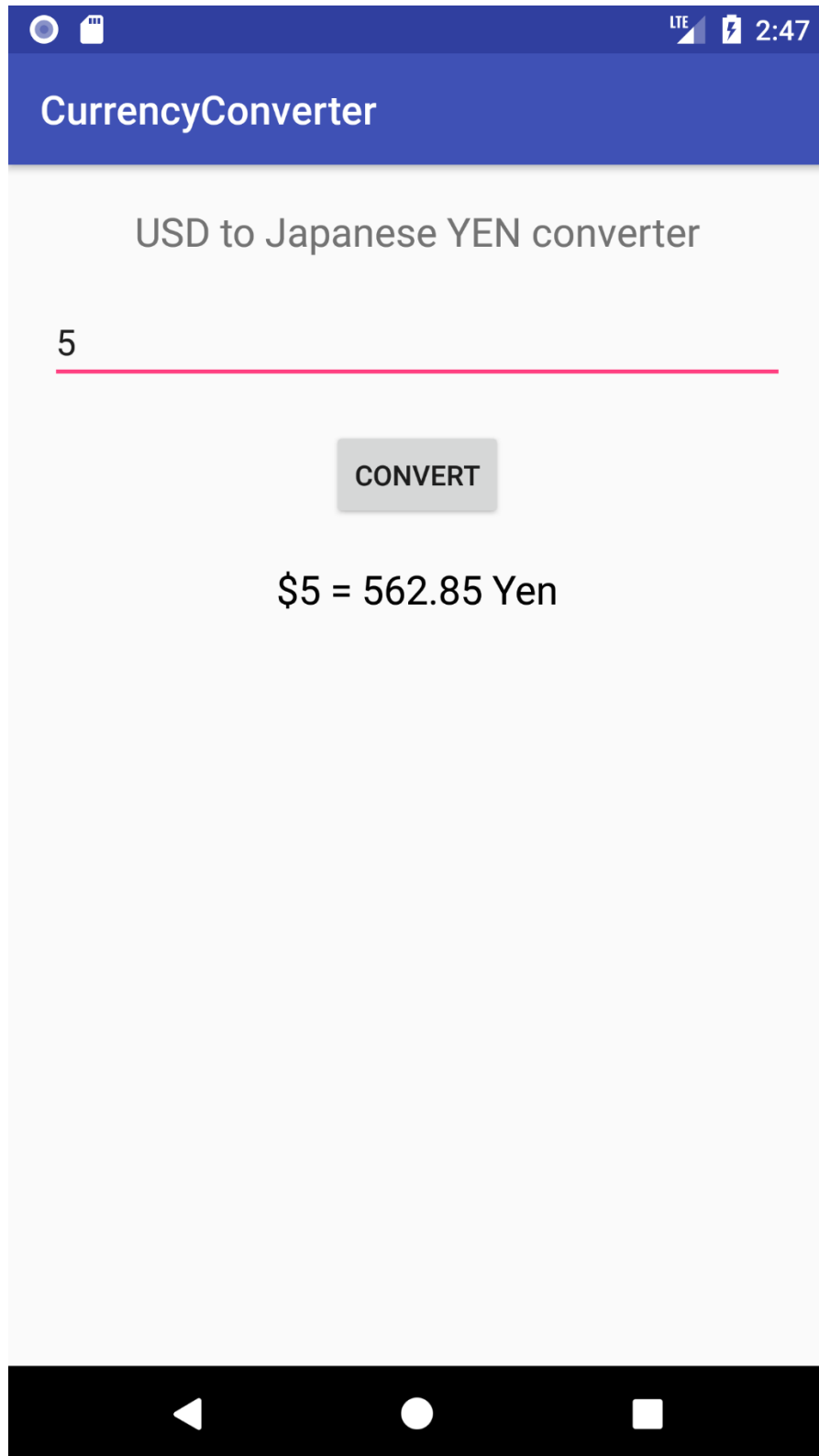
activity_main.xml

```xml
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:app="http://schemas.android.com/apk/res-auto"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    tools:context="com.example.tan089.currencyconverter.MainActivity"
    android:orientation="vertical">
    <!-- TextView display strings/texts-->
    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text="@string/title"
        android:textSize="20dp"
        android:layout_margin="20dp"
        android:gravity="center"
        />
    <!-- EditText store user's inputs-->
    <EditText
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:layout_marginLeft="20dp"
        android:layout_marginRight="20dp"
        android:layout_marginBottom="20dp"
        android:hint="Enter USD"
        android:id="@+id/EditText01"
        android:inputType="number"/>
    <!--Responding to Click Events-->
    <Button
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_gravity="center"
        android:text="@string/text1"
        android:id="@+id/bnt"/>

    <TextView
        android:layout_width="match_parent"
        android:layout_height="wrap_content"
        android:text=""
        android:textSize="20dp"
        android:layout_margin="20dp"
        android:gravity="center"
        android:id="@+id/Yen"
        android:textColor="#000"
        />
</LinearLayout>
```

MainActivity.java

```java
package com.example.tan089.currencyconverter;

import android.support.v7.app.AppCompatActivity;
import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.TextView;

public class MainActivity extends AppCompatActivity {
    //Declare some variables
    private EditText editText01;
    private Button bnt01;
    private TextView textView01;
    private String usd;
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        //cast the variables to their ids
        editText01 = findViewById(R.id.EditText01);
        bnt01 = findViewById(R.id.bnt);
        textView01 = findViewById(R.id.Yen);


        //Click event
        bnt01.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View convertToYen) {
                //covert user's input to string
                usd = editText01.getText().toString();
                //if-else statement to make sure user cannot leave the EditText blank
                if (usd.equals("")){
                    textView01.setText("This field cannot be blank!");
                } else {
                    //Convert string to double
                    Double dInputs = Double.parseDouble(usd);
                    //Convert function
                    Double result = dInputs * 112.57;
                    //Display the result
                    textView01.setText("$" + usd + " = " + "¥"+String.format("%.2f",
result));

                    //clear the edittext after clicking
                    editText01.setText("");
                }
            }
        });
    }
}
```