

Course Lecturer: Dr. George Violettas

Lab Instructor: Eng. Hoda Elsayed

Spring Semester 2022

Expected Time: 2 hrs

Student Name: **Amaan Ahmed Zubair 200226**

Objectives

The objective of this lab is to:

- Learning about various views (e.g. EditText, radio groups, radio buttons, Buttons)
- Dealing with input and output through getText() and setText() methods
- Learning about Toast messages
- Dealing with properties like hint
- Changing the app icon

Submission Style:

- Add screenshot of the final mobile app screen you built
- Submit the project as .zip file as well that you saved using Android Studio IDE



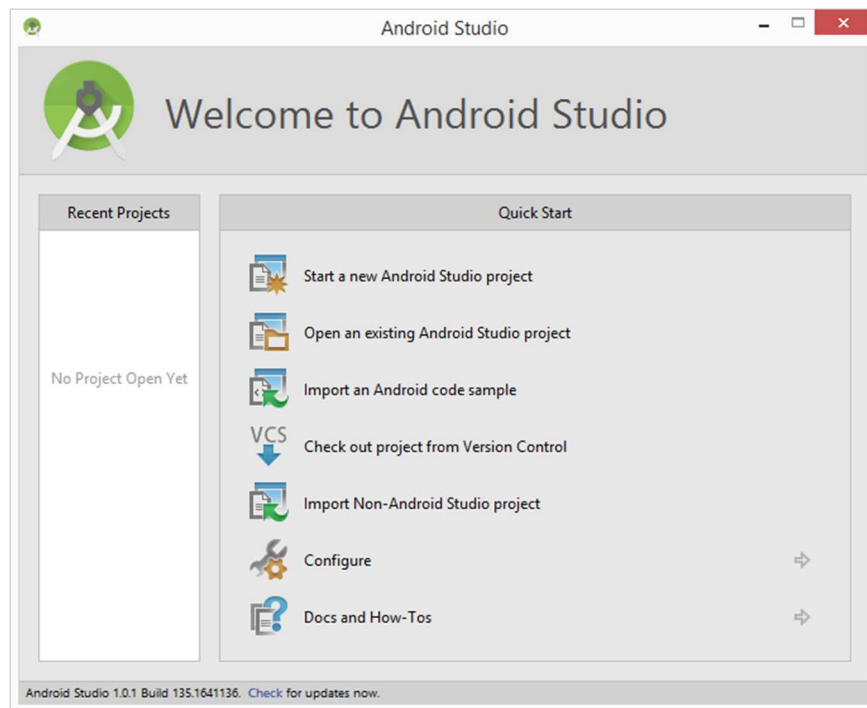
Ex#	Grade	Out of	Grader Comment(s)
1		10	
Total		10	
Signature			

Create a project on Android Studio

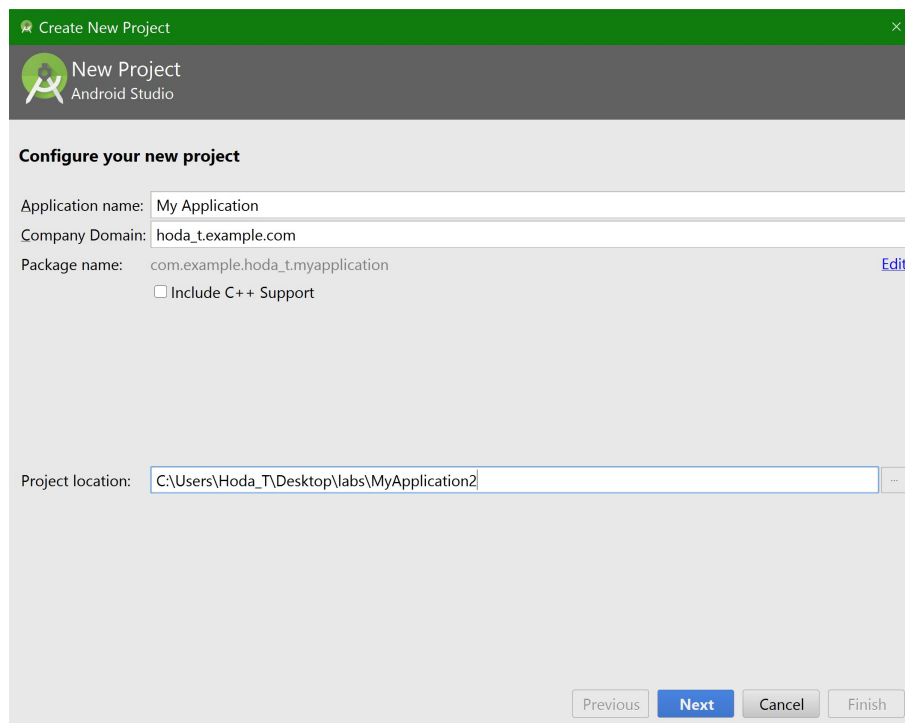
After clicking android Studio's icon, follow the following steps to create a new project on Android Studio:

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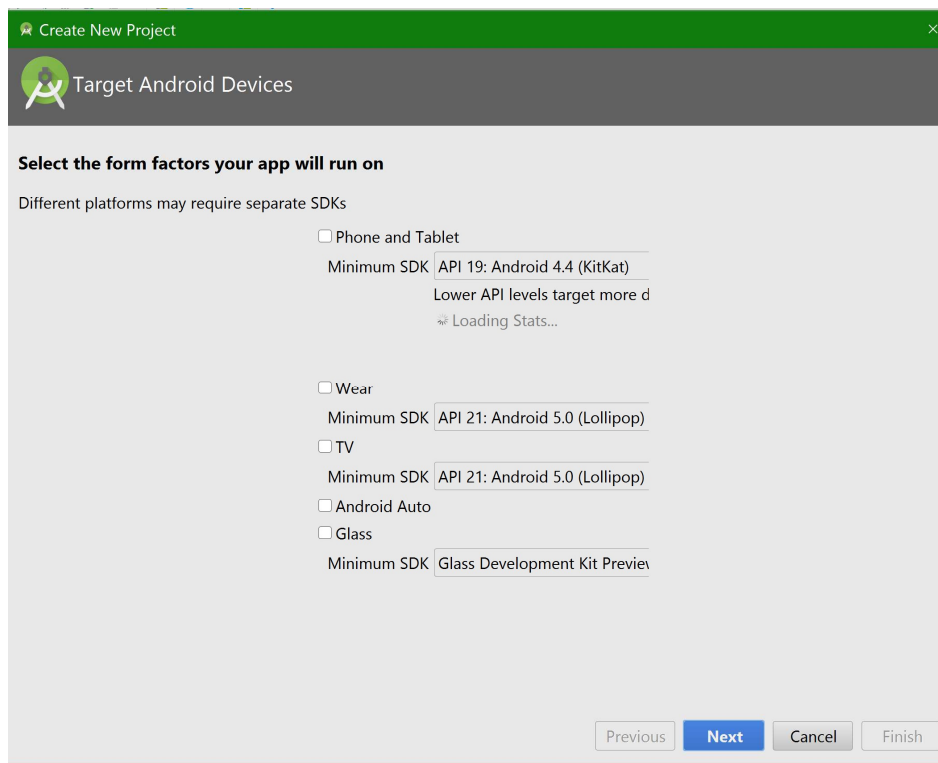
1- Click start a new android studio project



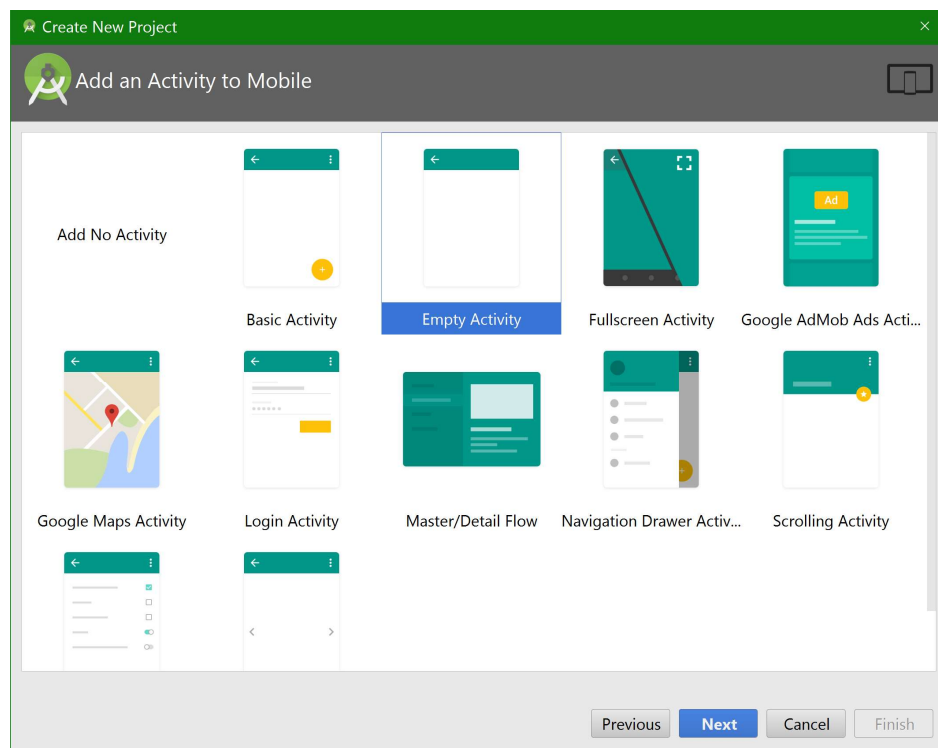
2- Give it a proper name and specify the location in which the project will be saved then click next



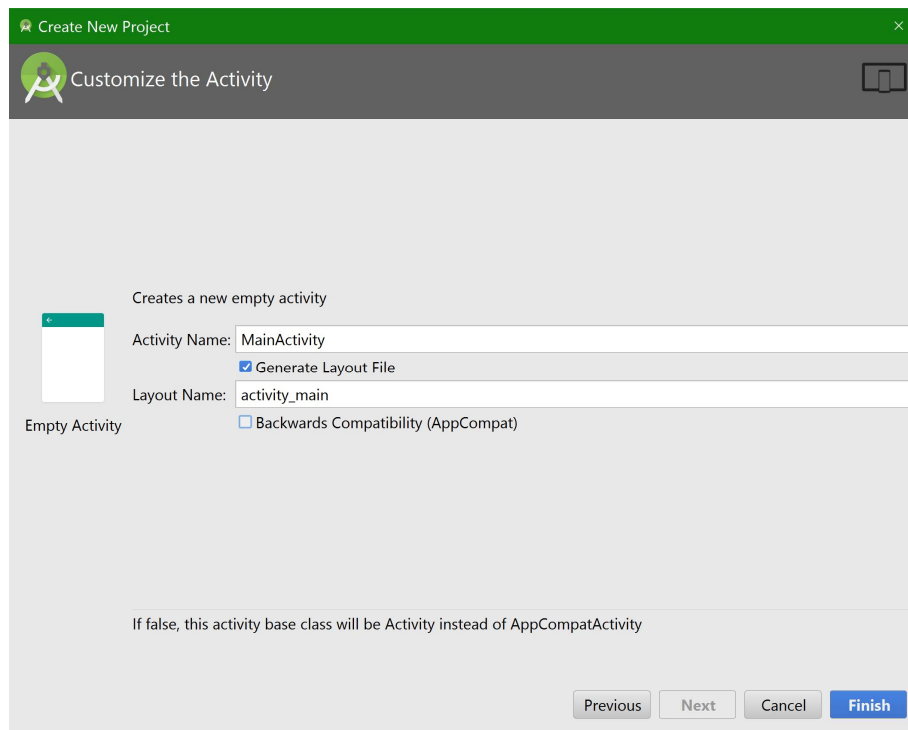
3- Specify the type of development you want to perform by checking the phone and tablet option and then choose API 19



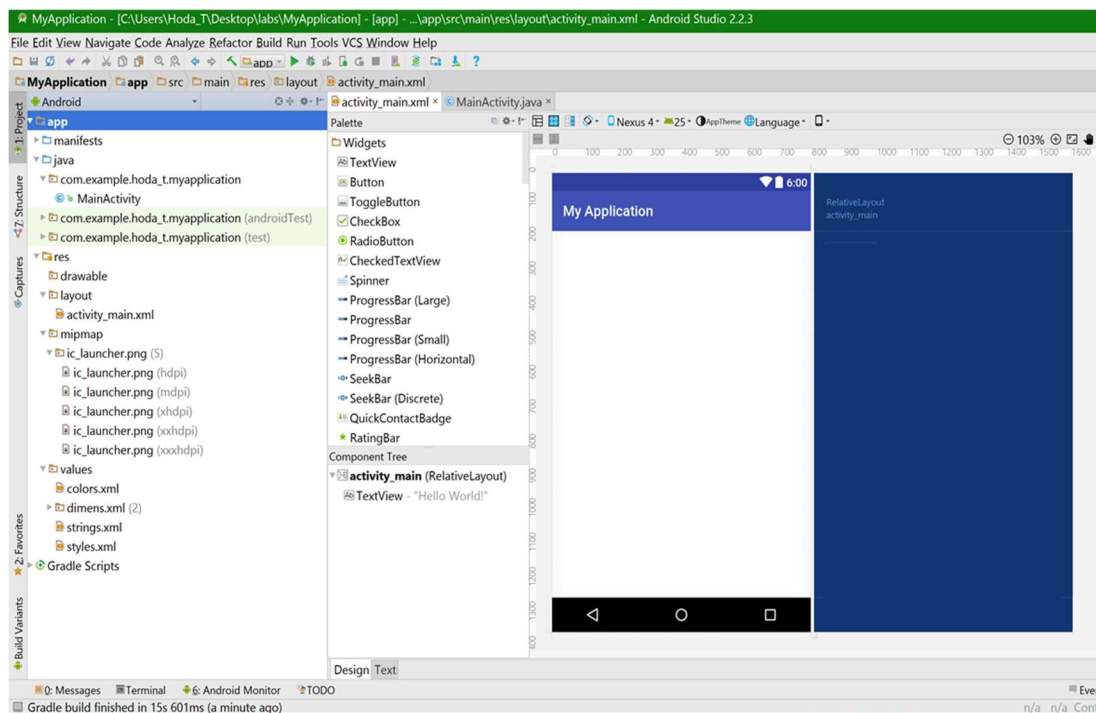
4- Click on empty activity then click next



5- Give your activity a meaningful name (e.g. Hello World), or you can keep the default as MainActivity then check the generate layout file option and uncheck compatibility option then click finish



6- After clicking finish, you should see the following IDE now



Exercise: Currency Converter

Design a single activity for currency converter application on android studio that takes user input in US dollars then converts it to either euro, Mexican peso or Canadian dollar based on user choice on the radio buttons given that each of the listed currencies can be calculated using the following rates:

- Euro = $1.16 * US$
- MexicanPeso = $0.05 * US$

- CanadianDollar = 0.79 * US

In this exercise, you need to use the following views: *TextView*, *EditText* with hint property, 3 *radio buttons* in a *radio group* and a *button*. In addition, you need an empty *TextView* below the button to display the conversion result in. Use *if-else conditions* to perform action if any of the radio buttons is selected.

Add a limitation on user input such that if the user entered less than 100000 for US Dollars, the conversion operation will be performed. Otherwise, an error message will show up. Also, add a customized app icon of your choice after placing it in the drawable folder. In this exercise, you need to use if – else conditioning and toast.

Helping pieces of code:

```
final RadioButton Eurovariable = (RadioButton) findViewById(R.id.rbtn1ID);

if (radiobuttonName.isChecked()) { ... }

double Num = Double.parseDouble(EditTextName.getText().toString()); //extract & Convert to double

Result.setText(tenth.format(Eurovariable) + " Euro");

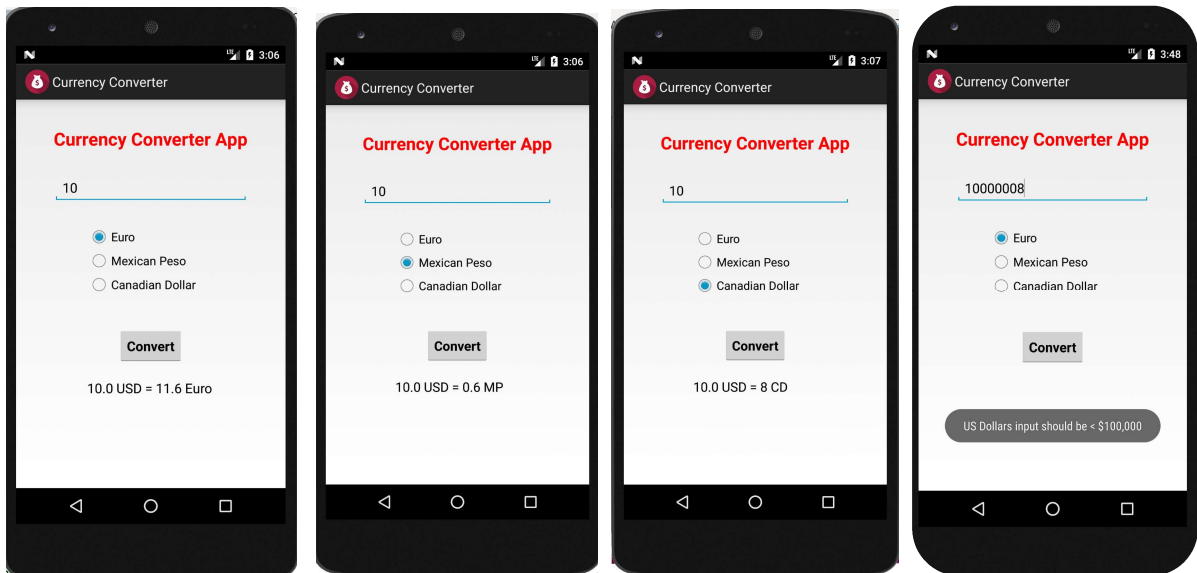
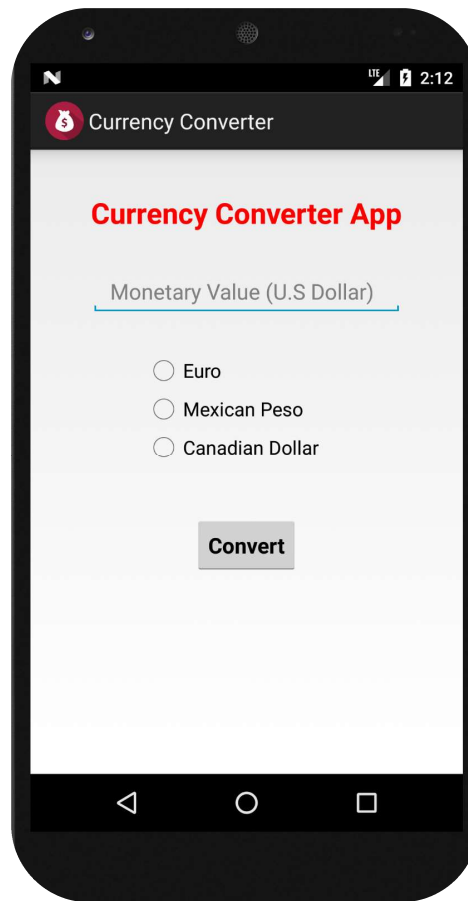
Toast.makeText(MainActivity.this, "alert message", Toast.LENGTH_LONG).show(); // 3.5 seconds
```

To change app icon, open Android Manifest file and change application icon to new image name:

```
android:icon="@drawable/currency"
```

App name can be changed from Strings.xml file:

```
<resources>
    <string name="app_name">Currency Converter</string>
</resources>
```



Answer Screenshot:

Java code:

```
package com.example.mobdev_lab2;
```

```

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.Button;
import android.widget.EditText;
import android.widget.RadioButton;
import android.widget.TextView;
import android.widget.Toast;

import java.text.DecimalFormat;
import java.util.zip.DeflaterInputStream;

public class MainActivity extends AppCompatActivity {

    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.activity_main);
        final RadioButton rbEuro = (RadioButton) findViewById(R.id.rbEuro);
        final RadioButton rbMP = (RadioButton) findViewById(R.id.rbMexicanPeso);
        final RadioButton rbCD = (RadioButton) findViewById(R.id.rbCanadianDollar);

        getSupportActionBar().setDisplayHomeAsUpEnabled(true);
        getSupportActionBar().setIcon(R.drawable.ic_currency);

        TextView resultDisp = (TextView) findViewById(R.id.result);

        EditText inputVal = (EditText) findViewById(R.id.enterValue);

        DecimalFormat tenth = new DecimalFormat("$###,###.##");

        Button convert = (Button) findViewById(R.id.convertBtn);

        convert.setOnClickListener(new View.OnClickListener() {
            @Override
            public void onClick(View view) {
                double num = Double.parseDouble(inputVal.getText().toString());
                if(num >= 1000000){
                    Toast.makeText(MainActivity.this, "USD more than 1000000",
                    Toast.LENGTH_LONG).show();
                    resultDisp.setText("ERROR");
                    return;
                }
                if (rbEuro.isChecked()) {
                    resultDisp.setText(tenth.format(1.16*num) + "Euro");
                }
                else if (rbMP.isChecked()) {
                    resultDisp.setText(tenth.format(20.38*num) + "Mexican Peso");
                }
                else if (rbCD.isChecked()) {
                    resultDisp.setText(tenth.format(0.79*num) + "Canadian Dollar");
                }
            }
        })
    }
}

```

```
}  
}  
};  
}
```

Emulator Screenshots (show all scenarios):

