Zaawansowane Programowanie Obiektowe I

Laboratorium 8: Wstęp do programowania na platformie Android

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P10-78a (wt.11:15)

Zadanie 1

1.1 Rozwiązanie zadania

@@@activity_main.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"
    android:orientation="vertical"
    tools:context=".MainActivity">

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="622dp"
        android:layout_margin="16dp"
        android:layout_marginTop="40dp"
        android:orientation="vertical">

        <TextView
            android:id="@+id/textView"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:gravity="center"
            android:layout_gravity="center"
            android:layout_margin="16dp"
            android:layout_marginTop="40dp"
            android:text="@string/spinner_nfo" />

        <Spinner
            android:id="@+id/currencySpinner"
            android:layout_width="fill_parent"
            android:layout_height="wrap_content"
            android:layout_margin="16dp" />

        <EditText
            android:id="@+id/currencyInputValue"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_margin="40dp"
            android:ems="12"
            android:gravity="center"
            android:importantForAutofill="no"
            android:inputType="numberDecimal" />
```

```
        <Button
            android:id="@+id/calculateBtn"
            android:layout_width="wrap_content"
            android:layout_height="40dp"
            android:layout_gravity="center"
            android:onClick="calculateBtnOnClick"
            android:text="@string/button" />

        <Space
            android:layout_width="match_parent"
            android:layout_height="32dp"/>

        <TextView
            android:id="@+id/outputValue_nfo"
            android:gravity="center"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_margin="16dp"
            android:layout_marginVertical="4dp"
            android:paddingVertical="1dp"
            android:text="@string/outputValue_nfo" />

        <TextView
            android:id="@+id/outputValueTV"
            android:layout_width="match_parent"
            android:layout_height="wrap_content"
            android:layout_margin="16dp"
            android:layout_marginVertical="4dp"
            android:gravity="center"
            android:paddingVertical="50dp"
            android:textSize="28dp" />

    </LinearLayout>

</LinearLayout>
```

@@@strings.xml

```
<resources>
    <string name="app_name">CurrencyConversion</string>
    <string name="spinner_nfo">Choose the input (user given) value
currency: </string>
    <string name="outputValue_nfo">This is your output (converted) value in
PLN: </string>
    <string name="button">CALCULATE</string>
    <string-array name="currencySpinner">
        <item>USD</item>
        <item>EUR</item>
        <item>CHF</item>
        <item>GBP</item>
    </string-array>
</resources>
```

@@@Kantor.java

```
package edu.ib.CurrencyConversion;

import android.app.Activity;
import android.view.View;
import android.widget.AdapterView;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Spinner;
```

```
import androidx.appcompat.app.AppCompatActivity;

public class Kantor extends Activity {

    Button calculateBtn;
    EditText currencyInputValue;
    Spinner currencySpinner;
    String item;

    public Kantor(Button calculateBtn, EditText currencyInputValue, Spinner
currencySpinner, String item) {
        this.calculateBtn = calculateBtn;
        this.currencyInputValue = currencyInputValue;
        this.currencySpinner = currencySpinner;
        this.item = currencySpinner.getSelectedItem().toString();
    }

    public double returnPLN() {

        double convertedValue = 0;

        double currencyValue;
        currencyValue =
Double.parseDouble(String.valueOf(currencyInputValue.getText()));

        //SPINNER

        if (item.equals("EUR")){
            convertedValue = (currencyValue*4.23)-returnCommission();
        } else if (item.equals("USD")){
            convertedValue = (currencyValue*3.78)-returnCommission();
        } else if (item.equals("CHF")){
            convertedValue = (currencyValue*3.90)-returnCommission();
        } else if (item.equals("GBP")){
            convertedValue = (currencyValue*4.98)-returnCommission();
        }

        return convertedValue;
    }

    public double returnCommission() {

        double commission = 0;

        double currencyValue;
        currencyValue =
Double.parseDouble(String.valueOf(currencyInputValue.getText()));

        if (currencyValue<2e5){
            commission=currencyValue*0.2f;
        } else if (currencyValue>=2e5 && currencyValue<1e6) {
            commission=currencyValue*0.15f;
        } else if (currencyValue>=1e6 && currencyValue<3e6){
            commission=currencyValue*0.1f;
        } else if (currencyValue>=3e6 && currencyValue<10e6){
            commission=currencyValue*0.08f;
        }

        return commission;
    }
```

```
}
```

@@@MainActivity.java

```
package edu.ib.CurrencyConversion;

import androidx.appcompat.app.AppCompatActivity;

import android.os.Bundle;
import android.view.View;
import android.widget.AdapterView;
import android.widget.ArrayAdapter;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Spinner;
import android.widget.TextView;

import java.util.ArrayList;
import java.util.List;

public class MainActivity extends AppCompatActivity implements
AdapterView.OnItemSelectedListener {

    Button calculateBtn;
    EditText currencyInputValue;
    Spinner currencySpinner;
    String item;

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

        calculateBtn = (Button) findViewById(R.id.calculateBtn);
        currencyInputValue = (EditText)
findViewById(R.id.currencyInputValue);

        currencySpinner = (Spinner) findViewById(R.id.currencySpinner);
        // Create an ArrayAdapter using the string array and a default
spinner layout
        ArrayAdapter<CharSequence> adapter =
ArrayAdapter.createFromResource(this, R.array.currencySpinner,
android.R.layout.simple_spinner_item);
        // Specify the layout to use when the list of choices appears

adapter.setDropDownViewResource(android.R.layout.simple_spinner_dropdown_it
em);
        // Apply the adapter to the spinner
        currencySpinner.setAdapter(adapter);


    }

    public void calculateBtnOnClick(View view) {
        TextView currencyOutput =
(TextView)findViewById(R.id.outputValueTV);;
        Kantor kantor = new Kantor(calculateBtn, currencyInputValue,
currencySpinner, item);
        String ans = String.valueOf(kantor.returnPLN());
        currencyOutput.setText(ans);
    }
```

```
    @Override
    public void onItemSelected(AdapterView<?> parent, View view, int
position, long id) {
        item = parent.getItemAtPosition(position).toString();
    }

    @Override
    public void onNothingSelected(AdapterView<?> parent) {

    }
}
```

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