Correction TD01

| Matière : DEVELOPPEMNT D'APPLICATIONS MOBILES NATIVES | Classe : SEM21 |

Exercice1 (Sphère)

strings.xml
```xml
<?xml version="1.0" encoding="utf-8"?>
<resources>

    <string name="app_name">Sphere</string>
    <string name="action_settings">Settings</string>
    <string name="rayon">Rayon</string>
    <string name="calculer">Calculer</string>
    <string name="aire">Aire</string>
    <string name="volume">Volume</string>
    <string name="massev">Masse Volumique</string>
    <string name="peser">Peser</string>
    <string name="poids">Poids</string>

</resources>
```

activity_main.xml
```xml
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    xmlns:tools="http://schemas.android.com/tools"
    android:layout_width="fill_parent"
    android:layout_height="fill_parent"
    android:layout_alignParentLeft="true"
    android:layout_alignParentTop="true"
    android:layout_marginLeft="10dp"
    android:layout_marginTop="10dp"
    android:orientation="vertical" >

    <LinearLayout
        android:layout_width="match_parent"
        android:layout_height="wrap_content" >

        <TextView
            android:id="@+id/textView1"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:text="@string/rayon" />

        <EditText
            android:id="@+id/edRayon"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_weight="1"
            android:ems="10" >

            <requestFocus />
        </EditText>
    </LinearLayout>

    <Button
        android:id="@+id/btnCalculer"
        android:layout_width="fill_parent"
        android:layout_height="wrap_content"
        android:text="@string/calculer" />
```

```xml
<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content" >

    <TextView
        android:id="@+id/textView2"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/aire" />

    <EditText
        android:id="@+id/edAire"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:ems="10" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content" >

    <TextView
        android:id="@+id/textView3"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/volume" />

    <EditText
        android:id="@+id/edVolume"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:ems="10" />
</LinearLayout>

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content" >

    <TextView
        android:id="@+id/textView4"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/massev" />

    <EditText
        android:id="@+id/edMasseV"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:ems="10" />
</LinearLayout>

<Button
    android:id="@+id/btnPeser"
    android:layout_width="fill_parent"
    android:layout_height="wrap_content"
    android:text="@string/peser" />

<LinearLayout
    android:layout_width="match_parent"
    android:layout_height="wrap_content" >
```

```xml
    <TextView
        android:id="@+id/textView5"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:text="@string/poids" />

    <EditText
        android:id="@+id/edPoids"
        android:layout_width="wrap_content"
        android:layout_height="wrap_content"
        android:layout_weight="1"
        android:ems="10" />
    </LinearLayout>

</LinearLayout>
```

MainActivity.java

```java
package com.sphere;

import android.app.Activity;
import android.media.MediaRouter.VolumeCallback;
import android.os.Bundle;
import android.view.Menu;
import android.view.MenuItem;
import android.view.View;
import android.view.View.OnClickListener;
import android.widget.Button;
import android.widget.EditText;
import android.widget.Toast;

public class MainActivity extends Activity {
    // attributs
    private EditText edRayon;
    private Button btnCalculer;
    private EditText edAire;
    private EditText edVolume;
    private EditText edMasseV;
    private Button btnPeser;
    private EditText edPoids;

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

    private void init() {
        edRayon = (EditText) findViewById(R.id.edRayon);
        btnCalculer = (Button) findViewById(R.id.btnCalculer);
        edAire = (EditText) findViewById(R.id.edAire);
        edVolume = (EditText) findViewById(R.id.edVolume);
        edMasseV = (EditText) findViewById(R.id.edMasseV);
        btnPeser = (Button) findViewById(R.id.btnPeser);
        edPoids = (EditText) findViewById(R.id.edPoids);
        ajouterEcouteur();

    }
```

```java
    private void ajouterEcouteur() {
        btnCalculer.setOnClickListener(new OnClickListener() {

            @Override
            public void onClick(View arg0) {
                calculer();
            }
        });
        btnPeser.setOnClickListener(new OnClickListener() {

            @Override
            public void onClick(View arg0) {
                peser();
            }
        });

    }

    protected void calculer() {
        if(!edRayon.getText().toString().isEmpty()){
            double rayon = Double.parseDouble(edRayon.getText().toString());
            double aire = 4 * Math.PI * Math.pow(rayon, 2);
            edAire.setText(aire + "");
            double volume = 4 * Math.PI * Math.pow(rayon, 3) / 3;
            edVolume.setText(volume + "");
        } else {
            Toast t = Toast.makeText(getApplicationContext(),
                        "Tapez un réel dans Rayon SVP!", Toast.LENGTH_LONG);
            t.show();
            edRayon.requestFocus();
        }
    }

    protected void peser() {
        if(!edVolume.getText().toString().isEmpty()
            && (!edMasseV.getText().toString().isEmpty())){
            double volume = Double.parseDouble(edVolume.getText().toString());
            double masseV = Double.parseDouble(edMasseV.getText().toString());
            double poids = volume * masseV;
            edPoids.setText(poids + "");
        } else {
            Toast t = Toast.makeText(getApplicationContext(),
                        "Tapez un réel dans Masse Volumique SVP!",
                        Toast.LENGTH_LONG);
            t.show();
            edMasseV.requestFocus();
        }
    }
}
```