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Lab 4- Assignment 2
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Mobile App Development COMP-3660

Problem

It is difficult for people to find standard bodyweight for their body based on height and gender. There are few app which calculates the right body weight for the given height of the people.

Analysis

The solution for the problem is to design and develop the android app that calculates the standard weight for the human body. The user inputs the gender and body height in the app and the app display the standard body weight for the given user. To calculate the standard body weight, the following algorithm is used,

Input: Gender: Male/Female

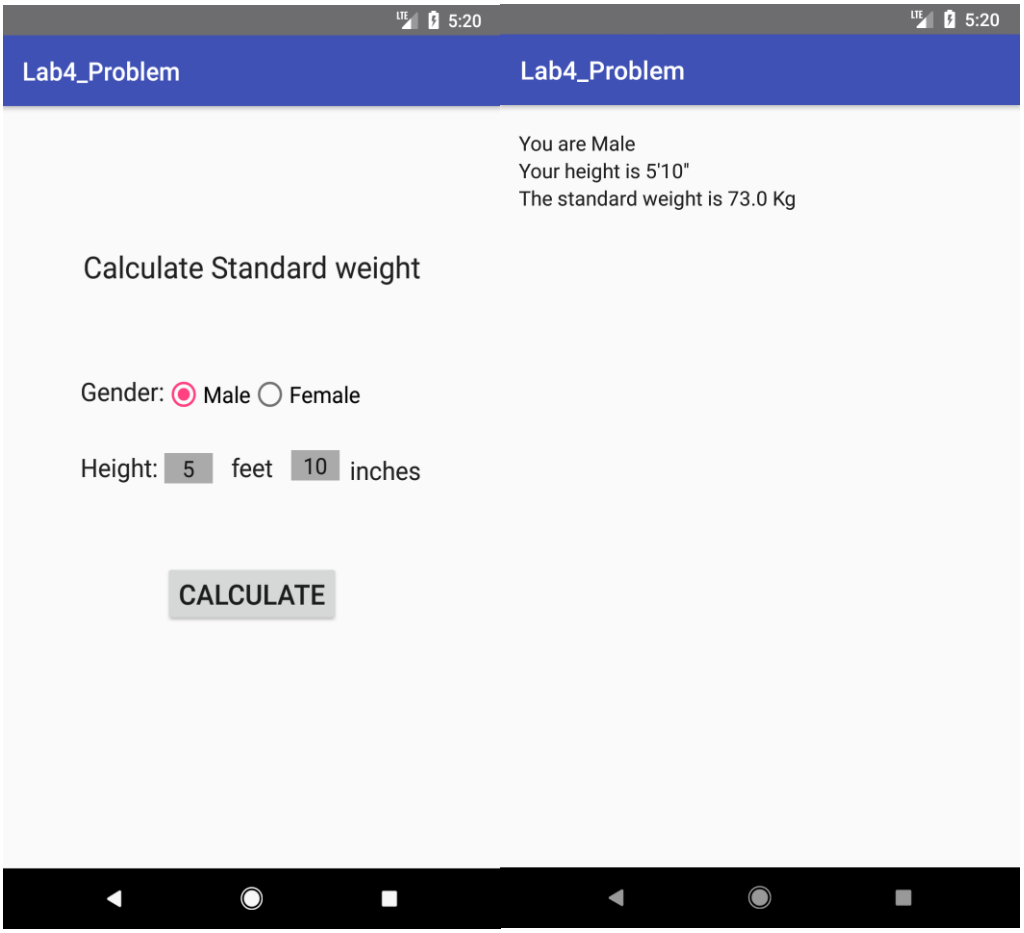
Output: Standard Body Weight

Algorithm:

```
If male {
        Return: 50kg + 2.3 kg * (Height(inches) – 60)
}
If Female {
        Return: 45.5kg + 2.3 kg * (Height(inches) -60)
```

Two layouts were created for input/calculator and results. User enters their inputs in calculator and the results are displayed in result layout.

The difficulties in solving this problem was activity switch between the calculator and display activity.



Source Code

Calculator.java

```
public class Calculator extends AppCompatActivity {

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



        Button calculator_btn = (Button)findViewById(R.id.calculate_button);
        calculator_btn.setOnClickListener(new View.OnClickListener(){
            @Override
            public void onClick(View v){
                RadioGroup radiosexbutton = (RadioGroup)findViewById(R.id.radioGroup);
                RadioButton maleradio = (RadioButton)findViewById(R.id.radioButton);
                EditText feet = (EditText) findViewById(R.id.editText2);
                EditText inches = (EditText) findViewById(R.id.editText1);
                double weight;

                int f = Integer.valueOf(feet.getText().toString());
```

```
                int i = Integer.valueOf(inches.getText().toString());

                int selectedsexgroup = radiosexbutton.getCheckedRadioButtonId();
                String Sex;
                if(selectedsexgroup == maleradio.getId()){
                    weight = 50 + (2.3 * (((f * 12)+i)-60));
                    Sex = "Male";
                }
                else {
                    weight = 45.5 + (2.3 * (((f * 12)+i)-60));
                    Sex = "Female";
                }

                Intent intent = new Intent(Calculator.this, Result.class);
                Bundle bundle = new Bundle();
                bundle.putString("sex",Sex);
                bundle.putDouble("weight", weight);
                bundle.putInt("feet", f);
                bundle.putInt("inches", i);

                intent.putExtras(bundle);
                startActivity(intent);
            }
        });

    }

}
```

Result.java

```
public class Result extends AppCompatActivity {
    @Override
    protected void onCreate(Bundle savedInstanceState) {
        super.onCreate(savedInstanceState);
        setContentView(R.layout.result);

        TextView psex, pweight, pheight;

        psex = (TextView)findViewById(R.id.publishsex);
        pheight = (TextView)findViewById(R.id.publishheight);
        pweight = (TextView)findViewById(R.id.publishstdweight);

        Intent intentResult = getIntent();
        Bundle bundle = intentResult.getExtras();

        String sex = bundle.getString("sex");
        Double weight = bundle.getDouble("weight");
        Integer feet = bundle.getInt("feet");
        Integer inches = bundle.getInt("inches");

        psex.setText(" " + sex.toString());
        pheight.setText(" " + feet.toString() + "'" + inches.toString()+"''");
        pweight.setText(" " + weight.toString() + " Kg");

    }
}
```

Calculator.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent">

        <TextView
            android:id="@+id/std_weight"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignParentTop="true"
            android:layout_centerHorizontal="true"
            android:layout_marginTop="111dp"
            android:text="@string/std_wgt"
            android:textAppearance="@style/TextAppearance.AppCompat.Headline"
            android:textSize="24sp" />

        <TextView
            android:id="@+id/textView3"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@+id/std_weight"
            android:layout_marginTop="69dp"
            android:layout_toStartOf="@+id/calculate_button"
            android:text="@string/gender"
            android:textAppearance="@style/TextAppearance.AppCompat.Body1"
            android:textSize="20sp"
            android:visibility="visible" />

        <RadioGroup
            android:id="@+id/radioGroup"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignTop="@+id/textView3"
            android:layout_toEndOf="@+id/textView3"
            android:orientation="horizontal">

            <RadioButton
                android:id="@+id/radioButton"
                android:layout_width="wrap_content"
                android:layout_height="match_parent"
                android:layout_gravity="left"
                android:text="@string/male"
                android:textSize="18sp" />

            <RadioButton
                android:id="@+id/radioButton1"
                android:layout_width="wrap_content"
                android:layout_height="match_parent"
                android:layout_alignBaseline="@+id/textView3"
                android:layout_alignBottom="@+id/textView3"
                android:layout_alignEnd="@+id/radioGroup2"
                android:layout_gravity="right"
                android:text="@string/female"
                android:textSize="18sp" />

        </RadioGroup>
```

```
        <TextView
            android:id="@+id/textView"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignStart="@+id/textView3"
            android:layout_below="@+id/radioGroup"
            android:layout_marginTop="28dp"
            android:text="@string/height"
            android:textAppearance="@style/TextAppearance.AppCompat.Body1"
            android:textSize="20sp"
            android:visibility="visible" />

        <EditText
            android:id="@+id/editText1"
            android:layout_width="40dp"
            android:layout_height="wrap_content"
            android:layout_alignEnd="@+id/calculate_button"
            android:layout_alignTop="@+id/textView2"
            android:background="@android:color/darker_gray"
            android:ems="10"
            android:inputType="number"
            android:gravity="center"/>

        <TextView
            android:id="@+id/textView2"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignBaseline="@+id/editText2"
            android:layout_alignBottom="@+id/editText2"
            android:layout_centerHorizontal="true"
            android:text="@string/feet"
            android:textAppearance="@style/TextAppearance.AppCompat.Body1"
            android:textSize="20sp" />

        <EditText
            android:id="@+id/editText2"
            android:layout_width="40dp"
            android:layout_height="wrap_content"
            android:layout_alignBaseline="@+id/textView"
            android:layout_alignBottom="@+id/textView"
            android:layout_alignStart="@+id/radioGroup"
            android:background="@android:color/darker_gray"
            android:ems="10"
            android:inputType="number"
            android:gravity="center"/>

        <TextView
            android:id="@+id/textView5"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignEnd="@+id/std_weight"
            android:layout_alignTop="@+id/editText2"
            android:text="@string/inches"
            android:textAppearance="@style/TextAppearance.AppCompat.Body1"
            android:textSize="20sp" />

        <Button
            android:id="@+id/calculate_button"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_below="@+id/textView"
            android:layout_centerHorizontal="true"
            android:layout_marginTop="62dp"
```

```
            android:text="@string/calculate"
            android:textSize="22sp" />
    </RelativeLayout>
</LinearLayout>
```

result.xml

```
<?xml version="1.0" encoding="utf-8"?>
<LinearLayout xmlns:android="http://schemas.android.com/apk/res/android"
    android:layout_width="match_parent"
    android:layout_height="match_parent"
    android:orientation="vertical">

    <RelativeLayout
        android:layout_width="match_parent"
        android:layout_height="match_parent">

        <TextView
            android:id="@+id/textView8"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignParentStart="true"
            android:layout_alignParentTop="true"
            android:layout_marginStart="15dp"
            android:layout_marginTop="19dp"
            android:text="@string/youare"
            android:textAppearance="@style/TextAppearance.AppCompat.Body1"
            android:textSize="16sp" />

        <TextView
            android:id="@+id/publishsex"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignBottom="@+id/textView8"
            android:layout_toEndOf="@+id/textView8"
            android:textAppearance="@style/TextAppearance.AppCompat.Body1"
            android:textSize="16sp" />

        <TextView
            android:id="@+id/textview9"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignStart="@+id/textView8"
            android:layout_below="@+id/textView8"
            android:text="@string/yourheight"
            android:textAppearance="@style/TextAppearance.AppCompat.Body1"
            android:textSize="16sp" />

        <TextView
            android:id="@+id/publishheight"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignBottom="@+id/textview9"
            android:layout_toEndOf="@+id/textview9"
            android:textAppearance="@style/TextAppearance.AppCompat.Body1"
            android:textSize="16sp" />

        <TextView
            android:id="@+id/textview10"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
```

```
            android:layout_alignStart="@+id/textview9"
            android:layout_below="@+id/textview9"
            android:text="@string/stdweightis"
            android:textAppearance="@style/TextAppearance.AppCompat.Body1"
            android:textSize="16sp" />

        <TextView
            android:id="@+id/publishstdweight"
            android:layout_width="wrap_content"
            android:layout_height="wrap_content"
            android:layout_alignBottom="@+id/textview10"
            android:layout_toEndOf="@+id/textview10"
            android:textAppearance="@style/TextAppearance.AppCompat.Body1"
            android:textSize="16sp" />


    </RelativeLayout>
</LinearLayout>
```

String.xml

```
<resources>
    <string name="app_name">Lab4_Problem</string>
    <string name="std_wgt">Calculate Standard weight</string>
    <string name="gender">Gender:</string>
    <string name="male">Male</string>
    <string name="female">Female</string>
    <string name="height">Height:</string>
    <string name="feet">feet</string>
    <string name="inches">inches</string>
    <string name="calculate">CALCULATE</string>
    <string name="youare">You are </string>
    <string name="yourheight">Your height is </string>
    <string name="stdweightis">The standard weight is </string>
</resources>
```