

Software Development – SAC Unit 3 Outcome 1

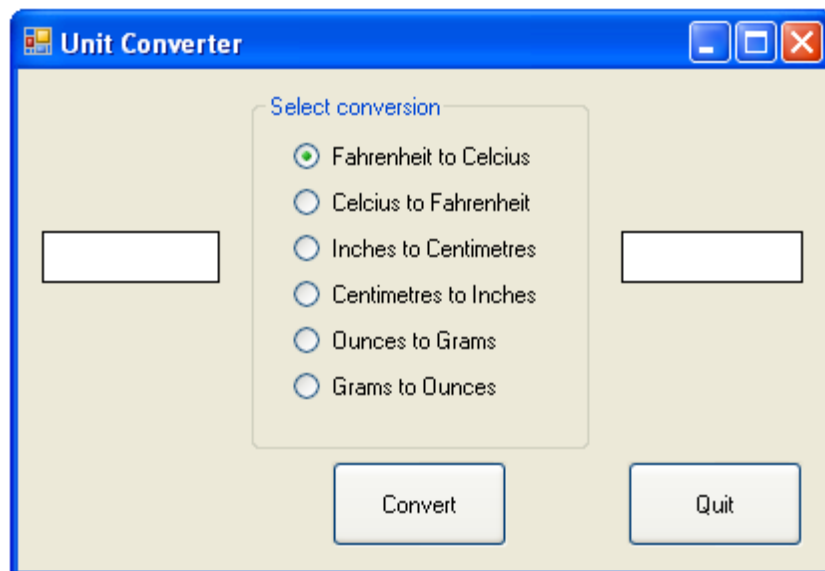
Unit Converter

Problem Description:

This folio piece will allow the user to perform popular conversions such as Fahrenheit to Celsius, Inches to Centimetres and Ounces to Grams. The user will be able to enter the value to be converted, select the type of conversion they require, and then see the result of the conversion.

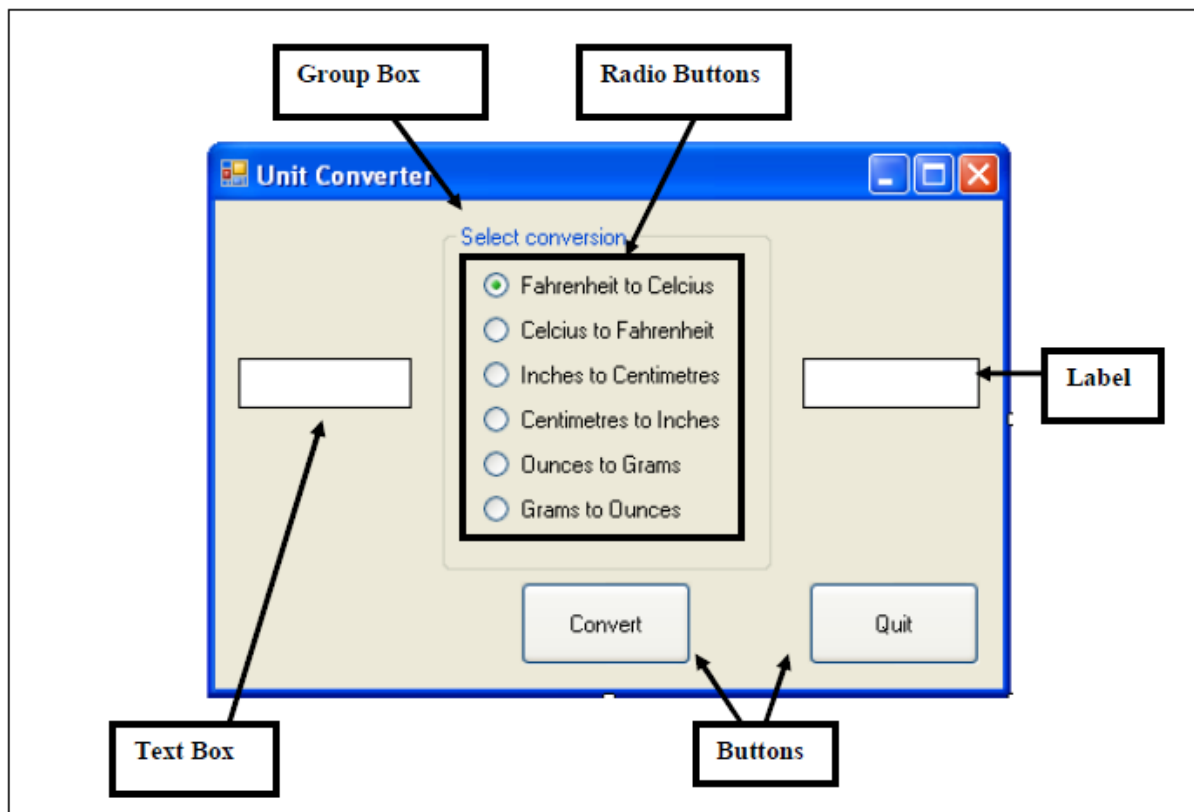
Skills Covered: RadioButton control, GroupBox control, If statement

This problem can be approached in a variety of different ways. What follows is a suggestion for one program that uses three types of conversions (in both directions). Feel free to add or remove conversions, to make the program more versatile or suit a particular purpose.



Setting up the objects for the program

Start a new Visual Basic.NET program called 'Unit Converter'. As the layout of this program is quite complicated, you may like to refer to the diagram below to see where specific objects need to be placed.



Changing the properties of the objects

Click on each object in turn and set the properties. Colours and fonts should be set according to your own preferences.

The group box should be called "Select conversion". A group box is a type of container that can be used to hold other controls. It is particularly useful in regards to radio buttons as only one will be able to be selected at any one time within a group box.

Set Form properties so that the form will appear in the centre of the screen and will not be able to be resized by the user. The form will also display the title 'Unit Converter' at the top.

Set the radio button "Fahrenheit to Celcius" to be the default conversion selected when the program is run.

Adding code to the program

Creating the code for this program will be fairly straightforward. Most of the code will be contained in the 'Convert' button

Each radio button is tested with an 'If' statement in turn to see if it is the one that has been checked by the user. If it is, then the appropriate conversion code is executed. Note that the 'Val' statement is used to convert the contents of the text box to a number.

Conversions

F to C	$C = (F - 32) * 5/9$
C to F	$F = (C * 9/5) + 32$
Inch to cm	$cm = inch * 2.54$
cm to inch	$inch = cm / 2.54$
ounces to grams	$grams = ounces * 28.35$
grams to ounces	$ounces = grams / 28.35$

Testing the program

Run the program and make sure that it works as it is meant to. If there are any errors, see if you can find what you have done wrong.

Extension

- Add the facility to convert currency amounts and give the user a method by which they can modify the multiplier (for example, when converting from Australian dollars to US dollars, you can multiply by the exchange rate which is typically about 0.78, however, this changes on a daily basis).