

Challenge: Temperature Converter

Description: Create a Universal iOS application in Xcode using Swift that allows a user to convert a temperature entered into a Text Field in Fahrenheit to a temperature in Celsius displayed in a Label when a “Convert” Button is tapped. At the top of the app is to be a label that serves as a title that says “Convert °F to °C” “°F” is to be placed in a label to the right of the Text Field and “°C” is to be placed in a label to the right of the Celsius temperature label that holds the converted value. Auto Layout Constraints are to be used to layout the UI elements.

Purpose: This challenge provides experience using Swift, IBActions, IBOutlets, conversions between numbers and strings, and building user interfaces in Interface Builder with Auto Layout Constraints.

Requirements:

Project Name: TemperatureConverter

Devices: Universal

UI Elements

Note: if a font is not specified then it is expected that you use the default value.

Label to serve as title containing “Convert °F to °C”. The title label is to be centered horizontally and be 20 points from the top layout guide. Use font “System 22.0”.

Label to serve as output for converted Celsius value. The label is to be centered horizontally and be 30 points from the bottom of the title Label. Use font “System 33.0”.

Label to serve as units indicator for converted Celsius value. It is to contain “°C”. It is to be horizontally spaced 5 points to the right of the converted Celsius value label and vertically have the same Center Y.

Text Field to serve as input for Fahrenheit value to be converted. It is to be centered horizontally and be 30 points from the bottom of the converted Celsius value label.

Label to serve as units indicator for Fahrenheit value. It is to contain “°F”. It is to be horizontally spaced 5 points to the right of the Fahrenheit Text Field and vertically have the same Center Y.

Button named “Convert” that when tapped initiates the conversion. It is to be centered horizontally and be 30 points from the bottom of the Text Field that is the Fahrenheit input.

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Functionality

The user enters a numerical value in the Fahrenheit Text Field and taps the “Convert” button. The Fahrenheit value is converted to a Celsius value that is then displayed in the Celsius value Label.

The formula for the conversion is:

$$C = (F - 32) / 1.8$$

Notes:

The way you are to name your Xcode project based on the Project Name and how to create a ZIP file for submission of your work on Blackboard is covered in the document “Xcode Project Naming and ZIP Files.pdf”.

The ZIP file of your Xcode project folder is to be submitted on Blackboard in the assignment submission that is included in the challenge.