# Assignment 6 – Functions, Functions, Functions

Submit to MUOnline as a compressed (.zip) file containing your code project.

**Demonstrate your functions working with dummy data if not specified.**

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| 1. | Write and test a function isVowel that returns whether or not a character is a vowel. Don’t worry about the letter ‘Y’. | 20% |
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| 2. | Write 3 functions that convert from Fahrenheit to Celsius, Celsius to Fahrenheit, and Celsius to Kelvin. Finally, add a 4th function that converts from Fahrenheit to Kelvin that calls the other functions instead of duplicating code.  C° = (F° - 32) \* 5 / 9  F° = C° \* 9 / 5 + 32  K° = C° + 273.15 | 30% |
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| 3. | Write a function GetVolume() with 3 overloads. If 1 value is passed in, find the volume of a sphere with that value being its radius. If 2 values are passed in, find the volume of a cylinder with those values being its radius and height. If 3 values are passed in, find the volume of a box with the 3 values being its length, width and height. | 30% |
|  | The volume of a sphere = 4 \* PI \* ((radius3)/3)  The volume of a cylinder = PI \* radius2 \* height  The volume of a box = width \* length \* height |  |
| 4. | Write a function called PrintDivider. The purpose of this is simply to show a neat distinction between the different parts of your program (parts 1, 2 and 3 above). It should take a single string as a ‘caption’, and output that caption in the middle of several symbols like underscores or asterisks. It should also output two new line characters to add some space between parts of your program, but should have an **optional** parameter to disable outputting the new line characters, such as for the first time it is called. In other words, it should do something like:  \*\*\*\*\*Testing isVowel Function\*\*\*\*\*  problem 1 output…  [extra space optionally added by PrintDivider]  \*\*\*\*\*Testing Temp Conversion Functions\*\*\*\*\* | 20% |
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| 5. | Penalty: If you have no comments, I’ll take off 10%. At least have your names/dates/who assisted you if you studied with or asked someone for help, and a comment over each function describing it. Ideally you would also have comments explaining any code that isn’t self-explanatory. | -10%  Penalty |