INFO1-CE9224 Lab Assignments

You're not responsible for turning these assignments in. They are for your own benefit so that you can learn in class and I can help you as you go. Choose whichever assignments you'd like in any order.

Assignment #1

Basic assignment, arithmetic, and type casting.

Create and instantiate a variable with an integer value. Add 1 to that integer value 3 times using a different operator each time. Use PHP's var_dump() method to print it to the screen twice. First, so that var_dump shows that it's an integer, next so that var_dump shows that it's a string.

Assignment #2

Write a script that creates three variables and assigns a different integer value to the first two, and the string value of the first in the third. Write a script that tests and outputs whether the first value is:

1. equal to the second value
2. equal to the third value
3. identical to the third value
4. greater than the second value
5. less than or equal to the second value
6. not equal to the second value

Assignment #3

Geometry 101 - Find the perimeter, area, and volume of each of the following shapes.

1. A circle (sphere for volume) with a radius of 7.4
2. A square (cube for volume) with sides of 14
3. A right triangle (ignore volume) with sides a (height) = 7, b (base) = 24, c = 25

Perimeter formulas
    circle: 2 * pi * radius
    square: 4 * side
    triangle: side1 + side2 + side3

Area formulas
    circle: pi * radius^2
    square: side^2
    Triangle: base * height / 2

Volume formulas
    sphere: (4/3) * pi * radius^3
    cube: side^3

Needed info:
    use php's pow() function to square and cube values: pow(42, 2); // 42^2
    use php's built in Pi constant: M_PI or define your own constant for Pi

Output:

A circle with a radius of 7.4 has a perimeter of {answer}.
A circle with a radius of 7.4 has an area of {answer}.
A sphere with a radius of 7.4 has a volume of {answer}.

A square with sides equal to 14 has a perimeter of {answer}.
A square with sides equal to 14 has an area of {answer}.
A cube with sides equal to 14 has a volume of {answer}.

A right triangle with a height of 3, base of 4, and hypotenuse of 5 has a perimeter of {answer}.
A right triangle with a height of 3, base of 4, and hypotenuse of 5 has an area of {answer}.

Assignment #4

String Handling and Manipulation

Given the information in the Class 2 slides and presentation, perform the following tasks:

1. Assign your first and last name to a single variable. Jumble up the caseing (ex: DavE HaUENsTein). Run string manipulation functions on them so that it reads like 'Dave Hauenstein'.
2. Take a look at PHP's str_pad function (http://us2.php.net/str_pad). Ignore all arguments but the first two $input and $pad_length. Using sprintf (or printf), emulate the functionality and print it to the screen.
3. Given the following paragraph, take this list of words and replace them with something else... MadLibs style! Then print out how long the original paragraph was, how long the new paragraph is, and the difference between the two (programmatically of course).

find: entrepreneurs, resources, businesses, Brooklyn Public Library, competition, Citi Foundation, prizes

Replace them with whatever you'd like.

Brooklyn is filled with entrepreneurs, and a ton of great resources to launch homegrown businesses. But the most exciting opportunity of all is Brooklyn Public Library's annual competition! For the past nine years the six-month competition, sponsored by Citi Foundation, has allowed hundreds of Brooklynites to vie for prizes from $500 to $15,000 to make their vision a reality.