# PHP Lab 4 Operators and Flow Control

This lab assumes you’ve studied CyberAces\_Module3-WebScripting\_3\_PHPOperators\_20150129.pdf and CyberAces\_Module3-WebScripting\_4\_PHPFlowControl\_20150129.pdf.

You will write a simple PHP script to run on your web server. (Remember, PHP runs on the server, Javascript runs on the web browser.) We will start the script in this lab and complete it in the next lab.

## Table of Powers

Write a php script that generates the following output:

Table of Powers

n n^2 n^3

1 1 1

2 4 8

3 9 27

First, we’ll generate the table manually, by creating one line of code for each line in the table. We’ll set n ($x, or whatever variable you chose) equal to 1 and print a line. Then we’ll set n = 2 and print the next line, and so on. After that we’ll do it using a loop.

### Manual method

Note: If you have programming experience and want to skip ahead to the loop method, go ahead.

For the numbers use php code that computes $x\*$x, and $x\*$x\*$x. You’ll need to set the starting value of (initialize) $x to 1 before you compute the powers. HTML ignores spaces and ends of line, so you must manually tell it to include them. To make it use new lines, use the HTML symbol "<br>".  
echo "n" . "n^2" . "n^3" . "<br>"; this is the header  
echo $x . $x\*$x . $x\*$x\*$x . "<br>"; this is a line of numbers

However, the numbers will be squished together, even though we have spaces between the concatenation operator (.). We have to manually insert the spaces with the HTML symbol "&nbsp" (non-blocking space)  
echo "n"."&nbsp". "n^2"."&nbsp". "n^3". "<br>";  
echo $x. "&nbsp". $x\*$x. "&nbsp". $x\*$x\*$x. "<br>";

Then increment $x by 1, or set it to 2.

Then copy and paste in the line you used to compute $x\*$x, and $x\*$x\*$x so you compute the values for 2.

Repeat once more, with $x set to 3.

(The next section shows how to make this loop, so you only type the line once, but run it many times.)

Embed your code in a text file and save it with a .php extension. This is some basic HTML you can use:

<html>

<title> this shows up at the top of the browser</title>

<body>

<h4>this shows up at the top of your page</h4>

<?php

your stuff goes here

?>

</body></html>

## For Loop or While Loop

Edit your php script so that it uses a loop (for or while) to compute the powers an arbitrary number of times. You can program your loop so that it starts with n = 1 and continues until it hits n = $stop. The variable $stop is set before the loop so that it is easy to change.

When your script is working, use View Page Source in your browser to compare the instructions sent to the browser with your php script. What happened to the php commands?

# Hand In

Submit a copy of your code for the loop.

Note

We are using <br> and &nbsp to manually create a table. The correct way to do this is to use the table mechanism built into HTML. You can read about HTML tables here <https://www.w3schools.com/html/html_tables.asp> and about creating HTML tables with PHP here <https://www.javatpoint.com/how-to-create-html-table-with-a-while-loop-in-php>