

Introduction: The goal of this assignment is to give you experience working with arrays, IF-THEN-ELSE blocks, and LOOPS. Remember, arrays allow one variable name to refer to multiple memory locations. IF-THEN-ELSE blocks let you choose what parts of your code to execute based on input data. LOOPS allow you to repeat sections of code. These three things exist in some form in just about all programming languages. After this assignment, should gain a better appreciation of the power JavaScript.

Procedures:

PART 1:

1. Use a text editor to complete your assignment.
2. Using your text editor create a new document named "cop2500lab5.html". Do not close out the window until after the lab instructor has had time to verify your work.
3. Convert the following two algorithms into JavaScript code within your HTML document. **Your final web page should display the algorithm title, the input and the output.** The specific format you use to display the results is up to you, but it should be clear what the input and output means (in other words, don't just list rows of numbers without words or labels describing them). The first algorithm calculates the sum total of a list of numbers. The second algorithm, compares pairs of numbers from two different lists.

Sum a list of numbers.

Section	Pseudocode	Comments
INPUT:	var list[10];	This represents a list that will hold ten numbers.
OTHER VARIABLES:	var sum; var i;	
INITIALIZATION:	FOR i = 0 to 9 DO list[i] = random integer between 0 and 100; END DO sum = 0;	This fills the array with ten random numbers from 0 - 100. Notice how we use a built-in pseudo random number generator instead of coding it ourselves. Most languages have predefined pseudo random number generators and so does JavaScript. You lab instructor will demonstrate how to use it.
COMPUTATION:	FOR i = 0 to 9 DO sum = sum + list[i]; ENDDO	This loop simply adds each list element to the sum one by one.
OUTPUT:	Display sum using document.write() or something similar.	Remember to format your results in a sensible way.

Compare numbers from two separate lists.

Section	Pseudocode	Comments
INPUT:	var list1[10], list2[10];	This represents two lists of ten numbers each.
OTHER VARIABLES:	var i;	We only need the loop variable (also called a counting variable).
INITIALIZATION:	FOR i = 0 to 9 DO list1[i] = random number between 0 - 100; list2[i] = random number between 0 - 100; ENDDO	i = 0 to 10 not inclusive of 10.
COMPUTATION:	FOR i = 0 to 9 DO IF (list1[i] > list2[i]) THEN print(list1[i] + "is greater than" + list2[i]); ELSE IF (list1[i] < list2[i]) THEN print(list1[i] + "is less than" + list2[i]); ELSE print(list1[i] + "is equal to" + list2[i]); ENDIF	This simply compares two corresponding numbers from each list and prints out if the number in list1 is bigger, smaller, or equal to the number in list2.
OUTPUT:		No output required since we have printed out the results in the loop body.

4. Open a browser and verify that the file displays properly. Keep this window open until the instructor has had time to verify your work. In order to obtain full credit for your lab, you need to upload your file to the designated dropbox.