CSCE 121 - Introduction to Program Design and Concepts

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Arrays as function parameters

a. Write a function that has as parameter two arrays u and v of doubles with n elements, and returns the sum

$$u[0] * v[0] + u[1] * v[1] + u[2] * v[2] + \cdots + u[n-1] * v[n-1]$$

b. Write a program that inputs $0 < m < 100$ and a matrix $A_{m \times m}$ and prints the matrix A^2.

Arrays

Write a function that has as parameters $0 < n_1 < 100$ and $0 < n_2 < 100$ and two arrays u and v of integer numbers **in increasing order** with resp. n_1 and n_2 elements, and print the elements of the arrays in increasing order.

Example: For $n_1 = 5$, $n_2 = 3$ and the arrays

$$u = -23 \;\; 12 \;\; 24 \;\; 25 \;\; 31 \text{ e } v = 15 \;\; 25 \;\; 30$$

the function should print:

$$-23 \;\; 12 \;\; 15 \;\; 24 \;\; 25 \;\; 25 \;\; 30 \;\; 31$$

Arrays

Write a `bool` function that has as parameters two C-style strings, `text` and `word` and returns `true` if the word appears in the text.
Example: For the text

> *everyone is a moon, and has a dark side which he never shows to anybody.*

and the word `everybody` the function returns `false`.

Arrays

Write a program that has as input $0 < n < 1000$ and a list of n integer numbers and print, for each number, how many times it occurs.
Example: For $n = 8$ and the sequence

$$-1 \quad 3 \quad 0 \quad 1 \quad 0 \quad -1 \quad 2 \quad -1$$

you should print:

```
-1 appears 3 times
3 appears 1 times
0 appears 2 times
1 appears 1 times
2 appears 1 times
```