

Create a program to manipulate matrices. It should contain the following functions:

-> void criar_matrizes(Matriz& A, Matriz& B,...); Function that creates one or two matrices (depending on what the user asks) where the dimensions of the matrices are defined.

-> (...) ler_matrizes(...); Function that asks the user to introduce the values of one of the matrices or both.

-> (...) imprimir_matrizes(...); Function that prints one of the matrices or both.

-> (...) somar_matrizes (...); Function that sums matrices.

-> (...) subtrair_matrizes (...); Function that subtracts matrices.

-> (...) multiplicar_matrizes (...); Function to multiply matrices. In case the matrices are not square, the program should determine if A.B or B.A is possible. If not, it should ask for a constant C to multiply by the matrix A.

-> (...) transposta_matrizes (...); Function that returns the transpose of one of the matrices or only one.

-> (...) traco_matrizes(...); Function that calculates the trace of the matrix

-> int menu(); // The only function that is allowed to be present in the main file. It should print a menu for the user to choose from.

Example:

1. Criar matrizes
2. Ler matrizes
3. Imprimir matrizes
4. Somar matrizes
5. Subtraír matrizes
6. Multiplicar matrizes
8. Transpor matrizes
9. Calcular traço
10. Sair

As a way to make sure your program is not going to cause problems due to other functionalities already existent in the standard library, you should create your own namespace.