Program_05_5

Requirements

The purpose of this program is to input matrices A and B and then determine if the matrix multiplication C=A*B can be performed.

- If C=A*B cannot be performed, the user shall be instructed to input a new pair of matrices.
- If C=A*B can be performed the number of row and columns of C must be printed.
- In computing the value of C you may not use the matrix multiplication operator A*B.
- You must instead create nested for loops to evaluate each element of C manually using the formulas given in Tutorial_05_6. Matrix C1 will be computed using C1 = A*B to check our answer.
- The matrix CminusC1 = C - C1 will be computed. If all elements of CminusC1 are zero then our method iscorrect.

Program

In the code block below, create your program, editing the existing text as necessary.

Note: If you are using Octave then you will need to create a separate script file, save that separate file as the name **Program_05_05**. It will not conflict with this file of the same name since the extension will be different.

```
% Filename: Program_05_5
% Author:
% Assisted by:

% Program Description:

```

Example Output

Your program output should match the following. Be sure to try with different matrix dimensions and ensure it works. When I test, I will be testing multiple failure points, not simply entering the values shown in the output below.

```
Output for Program_05_5 written by Geoff Berl.


Enter matrix A. Enclose the values in brackets:
[10 15 22; 32 85 12; 14 6 44]

Enter matrix B. Enclose the values in brackets:
[1 2 3; 4 5 6]

# Columns in A must equal # Rows in B, try again

Enter matrix A. Enclose the values in brackets:
[10 15 22; 32 85 12; 14 6 44]

Enter matrix B. Enclose the values in brackets:
[1 2; 3 4; 5 6]

A =

    10    15    22
    32    85    12
    14     6    44


B =

     1     2
     3     4
     5     6

   Number of Rows in C = 3

Number of Columns in C = 2

C using nested for loops and Tutorial_06_5 formulas

C =

   165   212
   347   476
   252   316

C1 using matrix multiplication A*B

C1 =

   165   212
   347   476
   252   316

Check: All Elements in C-C1 should be equal to 0

cMinusC1 =

     0     0
     0     0
     0     0
```