
Submissions: This assignment is due at 11:59 PM on the 27th of Feb, 2019. Each student must submit his or her own assignment. This is a programming assignment. You have to submit code that can be run on a computer. You can use Java, C, C++ or Python to write code. In any case, your submission should be a single file containing your code (not compiled code), and any relevant instructions to compile or run your code as comments. The input/output format for each problem is specified with the problem. For the input format, you may assume the format will be absolutely as specified, i.e., you do not need to check for errors in the input format. For the output, your code must output its results on the standard output in the strict format desired of it (and nothing else).

Academic Integrity: You are encouraged to work in groups, but everyone must write his/her own code. Absolutely no copying is allowed. Please refer to the course policies and schedules about this. If you have worked with other students on the assignment or referred to external sources, please mention all names and sources on your assignment.

Problem 1[100 pts]: Write code to take as input two matrices and then multiply them, if possible. Your code should prompt user to enter

Enter number of rows of matrix A:

and similarly, “Enter number of columns of matrix A:” and “Enter number of rows for matrix B:”, “Enter number of columns for matrix B:”. Then, if the product $AB$ is not defined it should just output

$AB$ is not defined

and exit. If however $AB$ is defined, then for each row of $A$ it should ask:

Enter ith row of A:

for $i = 1, 2, 3, \ldots, n$ if $A$ is supposed to have $n$ rows. The user will enter the entries of $A$ as integers separated by spaces. The same thing is repeated for $B$. Then, the matrix product $AB$ is output. For example one session (along with inputs from user is shown)

Enter number of rows of matrix A : 2
Enter number of columns of matrix A : 2
Enter number of rows of matrix B : 2
Enter number of columns of matrix B : 2
Enter row 1 of A : -1 10
Enter row 2 of A : 3 7
Enter row 1 of B : 1 -1
Enter row 2 of B : 0 5
The product AB is :
-1  51
 3  32