Computational Physics Lab

(PH49012)

Spring-2021, IIT KGP

Assignment 02

Q1. Take two $n \times n$ matrices A and B, whose elements have been defined as follows:

$$A_{ij} = (i+1) \times (j+1)$$

$$B_{ij} = (i+j)$$

We know that index starts from zero in python. Hence for $n = 4$,

$$A = \begin{bmatrix} 1 & 2 & 3 & 4 \\ 2 & 4 & 6 & 8 \\ 3 & 6 & 9 & 12 \\ 4 & 8 & 12 & 16 \end{bmatrix} \text{ and } B = \begin{bmatrix} 0 & 1 & 2 & 3 \\ 1 & 2 & 3 & 4 \\ 2 & 3 & 4 & 5 \\ 3 & 4 & 5 & 6 \end{bmatrix}$$

Taking n as input, write a code to multiply two such matrices A and B.

Please implement the algorithm in your own code explicitly. Don't use any in built function that python already has.