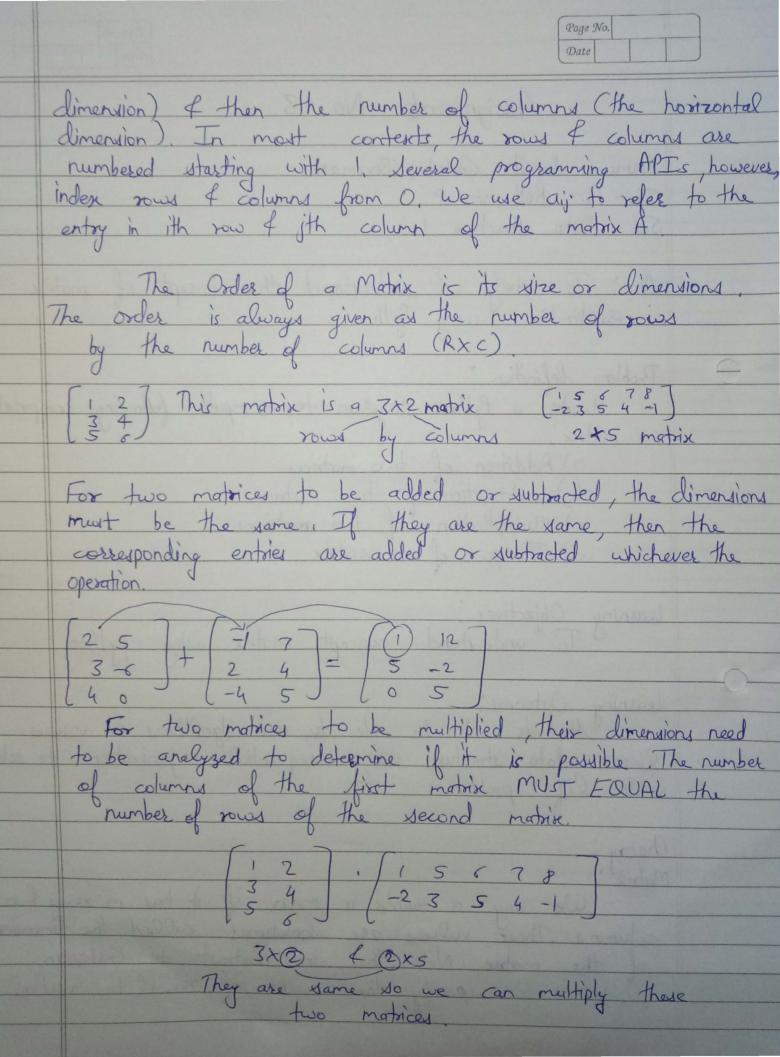
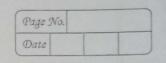
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	Assignment No. 3
	Name - Sumit Galab Bhamase Div - A Roll no - 8 Sub - Data Structure Lab
	Aim: To study of understand the concept of motion sealization using Python
	Problem definition: Write a Python program to compute following computation on motivix.
271	a) Addition of two matrices b) subtraction of two matrices c) Multiplication of two matrices d) Transpose of a matrix.
	learning Objectives. To understand concept motrix using python.
	learning Outrome. Students will be able to use algorithms on various linear data structure using sequential organization to solve real life problems.
	Theory: Motrix: We say a motrix is min if it has m sows in columns. These values are sometimes called the dimensions
	of the motrix. Note that, in contrast to Castesian coordinates, we specify the number of rows (the vestical



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	The outside numbers tell the dimensions or the order of the sesulting matrix.
	the transfer of the second sec
	3x2 & 2x3 3x5
	3+5
	The answer will be 93x5 matrix
	The position of each element (sow, column) in the answer is a clase to how to multiply,
	$ \begin{array}{c} (1,1)(1,2)(1,3)(1,4)(1,5) & \rightarrow & \text{This entry is in the 1St} \\ (2,1)(2,2)(2,3)(2,4)(2,5) & \text{row } & \text{Sth column so it} \\ (3,1)(3,2)(3,3)(3,4)(3,5) & \text{Dabeled (1,5)} \\ \end{array} $
3/6	To do the multiplication of the two matrices a calculation must be completed with the row of columns as follows. To obtain each entry in the solution matrix, we will look at the row in the first matrix of the column in the second matrix that correspond to the solution matrix entry. So, for the entry that belongs in the solution matrix in the location (1,5) we will we the 1st row in the first matrix of the 5th column in the second matrix.
	[3] [1 5 6 7 8] = [- = = =] This calculation 3 9 [-2 3 5 4 -1] = [- = = =] is for the entry in each of the second entry in each, then we will add those two results together. 1.8 + 21 [- = = = = = = = = = = = = = = = = = =



This process must be done for each entry in the solt motrix, Below are a few more examples. Then, the final motrix after all calculations are completed. Calculating (2,3)

[1 5 6 7 8] [= = 538 = 6]

The final answer for this motrix multiplication!

-3 11 16 15 6 -5 27 38 37 20 -7 43 60 59 34

Input: Inter the data for first motorix & second motorix.

Output i addition, subtraction of multiplication of entered matrix of transpose of matrix

Algorithm / Pseudo code.

Addition of two matrices:

def addition matrix (M1, M2, M3, r, c);

for i in range(r):

for j in range (c): A. append (mi GJGJ + M2 GJGJ

M3, append (A)

· Subtraction of two motorices!

del subtraction-motorix (MI, M2, M3, x, c); for i in range (r); for j in range (c): A. append (MIGIG) -M2(I)(I) M3, append (A) · Multiplication of two Matrices; del multiplication_matrix (M1, M2, M3, 71, (1, (2); for i in range (81): for j in range (c2); for k in range (C1); sum = sum+ (m1(i)[N * m2(k)(j)) A. append (sum) M3 append (A) · Transpose of matrix;

del find transpose matrix (M, r, c, T); for i'm range(c); for j in range (x); A. append (M [j](i)) T. append (A). Software required: Open Source Python, Brogramming tool like Tupyter Notebook, Spydes.

Conclusion: Thus, we have studied of implemented the motion of performed different operations on it.