1. Write a Python Program to Add Two Matrices?

Ans. def addMatrices(a,b):

    print(f'Inputs: {a},{b}')

    if len(a) == len(b):

        out\_matrix = []

        for ele in range(len(a)):

            if len(a[ele]) == len(b[ele]):

                out\_matrix.append([])

                for sub\_ele in range(len(a[ele])):

                    out\_matrix[ele].append(a[ele][sub\_ele]+b[ele][sub\_ele])

            else:

                print('Both Matrices must contains same no of rows and columns')

    else:

        print('Both Matrices must contains same no of rows and columns')

    print(f'Output: {out\_matrix}')

addMatrices([[1,2,3],[4,5,6],[7,8,9]],[[9,8,7],[6,5,4],[3,2,1]])

addMatrices([[2,3,5],[1,1,1],[2,2,2]],[[4,3,5],[1,2,3],[3,2,1]])

1. Write a Python Program to Multiply Two Matrices?

Ans. a = [[1,2,3],[4,5,6],[7,8,9]]

b = [[1,4,7],[2,5,8],[3,6,9]]

def multiply\_matrice(a,b):

    output = []

    if len(a[0]) == len(b):

        for ele in range(len(a[0])):

            output.append([0 for ele in range(len(b[0]))])

        for i in range(len(a)):

            for j in range(len(b[0])):

                for k in range(len(b)):

                    output[i][j] += a[i][k]\*b[k][j]

        print(output)

    else:

        print('Matrix Multiplication is Not Possible')

multiply\_matrice(a,b)

1. Write a Python Program to Transpose a Matrix?

Ans. a = [[1,2,3],[4,5,6],[7,8,9]]

b = [[1,2],[4,5],[7,8]]

c = [[1,2,3],[4,5,6]]

def generate\_transpose(in\_matrix):

    out\_matrix = []

    for ele in range(len(in\_matrix[0])):

        out\_matrix.append([0 for i in range(len(in\_matrix))])

    for i in range(len(in\_matrix)):

        for j in range(len(in\_matrix[i])):

            out\_matrix[j][i] = in\_matrix[i][j]

    print(f'{in\_matrix} -> {out\_matrix}')

generate\_transpose(a)

generate\_transpose(b)

generate\_transpose(c)

1. Write a Python Program to Sort Words in Alphabetic Order?

Ans. def sortString():

    in\_string = input("Enter a String: ").title()

    sorted\_list = sorted(in\_string.split(' '))

    print(' '.join(sorted\_list))

sortString()

1. Write a Python Program to Remove Punctuation From a String?

Ans. def removePunctuatuions():

    punctuations = '''!()-[]{};:'"\,<>./?@#$%^&\*\_~'''

    in\_string = input('Enter a String: ')

    out\_string = ''

    for ele in in\_string:

        if ele not in punctuations:

            out\_string += ele

    print(out\_string)

removePunctuatuions()