1. **Write a Python Program to Add Two Matrices?**

**ANS:-**

**# Program to add two matrices using nested loop**

**X = [[1,2,3],**

**[4 ,5,6],**

**[7 ,8,9]]**

**Y = [[9,8,7],**

**[6,5,4],**

**[3,2,1]]**

**result = [[0,0,0],**

**[0,0,0],**

**[0,0,0]]**

**# iterate through rows**

**for i in range(len(X)):**

**# iterate through columns**

**for j in range(len(X[0])):**

**result[i][j] = X[i][j] + Y[i][j]**

**for r in result:**

**print(r)**

**Output**

[10, 10, 10]

[10, 10, 10]

[10, 10, 10]

1. **Write a Python Program to Multiply Two Matrices?**

**ANS:-**

**# Program to multiply two matrices using list comprehension**

**# take a 3x3 matrix**

**A = [[12, 7, 3],**

**[4, 5, 6],**

**[7, 8, 9]]**

**# take a 3x4 matrix**

**B = [[5, 8, 1, 2],**

**[6, 7, 3, 0],**

**[4, 5, 9, 1]]**

**# result will be 3x4**

**result = [[sum(a \* b for a, b in zip(A\_row, B\_col))**

**for B\_col in zip(\*B)]**

**for A\_row in A]**

**for r in result:**

**print(r)**

**Output:**

[114, 160, 60, 27]

[74, 97, 73, 14]

[119, 157, 112, 23]

1. **Write a Python Program to Transpose a Matrix?**

**ANS:-**

**# Python3 Program to find**

**# transpose of a matrix**

**N = 4**

**# This function stores**

**# transpose of A[][] in B[][]**

**def transpose(A,B):**

**for i in range(N):**

**for j in range(N):**

**B[i][j] = A[j][i]**

**# driver code**

**A = [ [1, 1, 1, 1],**

**[2, 2, 2, 2],**

**[3, 3, 3, 3],**

**[4, 4, 4, 4]]**

**B = A[:][:] # To store result**

**transpose(A, B)**

**print("Result matrix is")**

**for i in range(N):**

**for j in range(N):**

**print(B[i][j], " ", end='')**

**print()**

**Output:**

Result matrix is

1 2 3 4

2 2 3 4

3 3 3 4

4 4 4 4

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

**ANS:-**

**# Python3 program to sort the words of a string in**

**# alphabetical order**

**# Function to sort the words in alphabetical order**

**def Func(S):**

**W = S.split(" ")**

**for i in range(len(W)):**

**# convert all the words into lowercase**

**W[i]=W[i].lower()**

**S = sorted(W)**

**print(' '.join(S))**

**# Driver code**

**S = "the Quick brown fox jumPs over the lazY Dog"**

**# function call**

**Func(S)**

**Output:**

brown dog fox jumps lazy over quick the the

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

**ANS:-**

**# initializing string**

**test\_str = "Gfg, is best : for ! Geeks ;"**

**# printing original string**

**print("The original string is : " + test\_str)**

**# initializing punctuations string**

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

**# Removing punctuations in string**

**# Using loop + punctuation string**

**for ele in test\_str:**

**if ele in punc:**

**test\_str = test\_str.replace(ele, "")**

**# printing result**

**print("The string after punctuation filter : " + test\_str)**

**Output:**

The original string is : Gfg, is best : for ! Geeks ;  
The string after punctuation filter : Gfg is best for Geeks