**ANSWERS**

**Q1. Write a Python Program to Add Two Matrices?**

**Ans.** Please find below the code to add two matrices:

def add\_matrices(mat1, mat2):

result = [[mat1[i][j] + mat2[i][j] for j in range(len(mat1[0]))] for i in range(len(mat1))]

return result

def input\_matrix(rows, cols):

mat = []

for i in range(rows):

row = [int(x) for x in input(f"Enter row {i + 1} elements separated by spaces: ").split()]

mat.append(row)

return mat

rows = int(input("Enter the number of rows: "))

cols = int(input("Enter the number of columns: "))

print("Enter elements for the first matrix:")

matrix1 = input\_matrix(rows, cols)

print("Enter elements for the second matrix:")

matrix2 = input\_matrix(rows, cols)

sum\_matrix = add\_matrices(matrix1, matrix2)

print("Resultant matrix after addition:")

for row in sum\_matrix:

print(row)

**Q2. Write a Python Program to Multiply Two Matrices?**

**Ans.** Please find below the code to multiply two matrices:

def multiply\_matrices(mat1, mat2):

result = [[sum(mat1[i][k] \* mat2[k][j] for k in range(Len(mat2))) for j in range(Len(mat2[0]))] for I in range(Len(mat1))]

Return result

Def. input matrix (rows, cols):

Mat = []

For me in range (rows):

row = [into(x) for x in input(fender row {i + 1} elements separated by spaces: ").split()]

mat.append(row)

return mat

rows1 = int(input("Enter the number of rows for the first matrix: "))

cols1 = int(input("Enter the number of columns for the first matrix: "))

rows2 = int(input("Enter the number of rows for the second matrix: "))

cols2 = int(input("Enter the number of columns for the second matrix: "))

if cols1 != rows2:

print("Matrix multiplication not possible due to mismatched dimensions.")

else:

print("Enter elements for the first matrix:")

matrix1 = input\_matrix(rows1, cols1)

print("Enter elements for the second matrix:")

matrix2 = input\_matrix(rows2, cols2)

product\_matrix = multiply\_matrices(matrix1, matrix2)

print("Resultant matrix after multiplication:")

for row in product\_matrix:

print(row)

**Q3. Write a Python Program to Transpose a Matrix?**

**Ans.** Please find below the code to transpose a matrix:

def transpose\_matrix(mat):

transposed = [[mat[j][i] for j in range(len(mat))] for i in range(len(mat[0]))]

return transposed

def input\_matrix(rows, cols):

mat = []

for i in range(rows):

row = [int(x) for x in input(f"Enter row {i + 1} elements separated by spaces: ").split()]

mat.append(row)

return mat

rows = int(input("Enter the number of rows: "))

cols = int(input("Enter the number of columns: "))

print("Enter elements for the matrix:")

matrix = input\_matrix(rows, cols)

transposed\_matrix = transpose\_matrix(matrix)

print("Transposed matrix:")

for row in transposed\_matrix:

print(row)

**Q4. Write a Python Program to Sort Words in Alphabetic Order?**

**Ans.** Please find below the code to sort words in alphabetic order:

def sort\_words(sentence):

words = sentence.split()

words.sort()

return words

sentence = input("Enter a sentence: ")

sorted\_words = sort\_words(sentence)

print("Sorted words in the sentence:")

for word in sorted\_words:

print(word)

**Q5. Write a Python Program to Remove Punctuation From a String?**

**Ans.** Please find below the code to remove punctuation from a string:

import string

def remove\_punctuation(text):

no\_punct = text.translate(str.maketrans("", "", string.punctuation))

return no\_punct

text = input("Enter a string: ")

text\_without\_punct = remove\_punctuation(text)

print("String without punctuation:", text\_without\_punct)