Programming Assignment-8

1. Write a Python Program to Add Two Matrices?

Ans.

```
def add_matrices(matrix1, matrix2):
    result = [[matrix1[i][j] + matrix2[i][j] for j in range(len(matrix1[0]))] for i in range(len(matrix1))]
    return result

# Example
matrix1 = [[1, 2, 3], [4, 5, 6], [7, 8, 9]]
matrix2 = [[9, 8, 7], [6, 5, 4], [3, 2, 1]]

result = add_matrices(matrix1, matrix2)
for row in result:
    print(row)
```

2. Write a Python Program to Multiply Two Matrices?

Ans.

```
def multiply_matrices(matrix1, matrix2):
    result = [[sum(a * b for a, b in zip(row, col)) for col in zip(*matrix2)] for row in matrix1]
    return result

# Example
matrix1 = [[1, 2, 3], [4, 5, 6], [7, 8, 9]]
matrix2 = [[9, 8, 7], [6, 5, 4], [3, 2, 1]]

result = multiply_matrices(matrix1, matrix2)
for row in result:
    print(row)
```

3. Write a Python Program to Transpose a Matrix?

Ans.

```
def transpose_matrix(matrix):
    return [[matrix[j][i] for j in range(len(matrix))] for i in range(len(matrix[0]))]

# Example
matrix = [[1, 2, 3], [4, 5, 6], [7, 8, 9]]

transposed = transpose_matrix(matrix)
for row in transposed:
    print(row)
```

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

Ans.

```
def sort_words(sentence):
    words = sentence.split()
    words.sort()
    return ' '.join(words)

# Example
sentence = "hello world this is a test"
sorted_sentence = sort_words(sentence)
print("Sorted words:", sorted_sentence)
```

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

Ans.

```
import string
def remove_punctuation(text):
    return text.translate(str.maketrans('', '', string.punctuation))
```

```
# Example
text = "Hello, world! Welcome to Python programming."
clean_text = remove_punctuation(text)
print("Text without punctuation:", clean_text)
```