Assignment 8 Solutions

1. Write a Python Program to Add two Matrices ?

In [1]:

```python
def addM(A,B):
    result=[ [0,0,0],[0,0,0],[0,0,0] ]
    #for rows
    for i in range(len(A)):
        #for columns
        for j in range(len(A[0])):
            result[i][j]=A[i][j] + B[i][j]

    for k in result:
        print(k)

    return 0
A=[ [1, 2, 3], [3, 4, 5], [6, 7, 8] ]

B=[ [5, 6, 7], [1, 2, 3], [5, 3, 8] ]

print("Result: ")
addM(A,B)
```

```
Result:
[6, 8, 10]
[4, 6, 8]
[11, 10, 16]
```

Out[1]:

```
0
```

2. Write a Python Program to Multiply Two Matrices?

In [2]:

```python
a = [[1,2,3],[4,5,6],[7,8,9]]
b = [[11,12,13],[14,15,8],[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)
```

```
[[48, 60, 56], [132, 159, 146], [216, 258, 236]]
```

3. Write a Python Program to transpose a Matrix ?

In [3]:

```python
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, 2, 3], [4, 5, 6], [7, 8, 9]] -> [[1, 4, 7], [2, 5, 8], [3, 6, 9]]
[[1, 2], [4, 5], [7, 8]] -> [[1, 4, 7], [2, 5, 8]]
[[1, 2, 3], [4, 5, 6]] -> [[1, 4], [2, 5], [3, 6]]
```

4. Write a Python Program to sort Words in an Alphabatical Order ?

In [4]:

```python
def sortString():
    in_string = input("Enter a String: ").title()
    sorted_list = sorted(in_string.split(' '))
    print(' '.join(sorted_list))

sortString()
```

Enter a String: Abhi kale full name is abhishek rajendra kale
 Abhi Abhishek Full Is Kale Kale Name Rajendra

5. Write a Python Program to remove Punctuations From a String ?

In [5]:

```python
def removePunctuations():
    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)

removePunctuations()
```

Enter a String: This is going to be very craxy #$#%^$&^%@#^%^
This is going to be very craxy

In [ ]:

```python

```