

1. Write a Python Program to Add Two Matrices?

In [58]:

```
1 rows = int(input("Enter the number of rows: "))
2 cols = int(input("Enter the number of columns: "))
3 matrix1 = []
4 for i in range(rows):
5     x = []
6     for j in range(cols):
7         value = int(input(f"Enter the value at [{i}][{j}]: "))
8         x.append(value)
9     matrix1.append(x)
10 print('first matrix:',matrix1)
11 matrix2=[]
12 for i in range(rows):
13     y = []
14     for j in range(cols):
15         val= int(input(f"Enter the value at [{i}][{j}]: "))
16         y.append(val)
17     matrix2.append(y)
18 print('second matrix',matrix2)
19 for i in range(len(matrix1)):
20     # iterate through columns
21     for j in range(len(matrix1[0])):
22         result[i][j] = matrix1[i][j] + matrix2[i][j]
23 print('the sum of matrices are :')
24 for r in result:
25     print(r)
26 print('addition matrix is:',result)
```

```
Enter the number of rows: 2
Enter the number of columns: 2
Enter the value at [0][0]: 1
Enter the value at [0][1]: 2
Enter the value at [1][0]: 3
Enter the value at [1][1]: 4
first matrix: [[1, 2], [3, 4]]
Enter the value at [0][0]: 5
Enter the value at [0][1]: 6
Enter the value at [1][0]: 7
Enter the value at [1][1]: 8
second matrix [[5, 6], [7, 8]]
the sum of matrices are :
[6, 8]
[10, 12]
addition matrix is: [[6, 8], [10, 12]]
```

2. Write a Python Program to Multiply two Matrices ?

In [66]:

```
1 rows = int(input("Enter the number of rows for matrix1: "))
2 cols = int(input("Enter the number of columns matrix1: "))
3 matrix1 = []
4 for i in range(rows):
5     x = []
6     for j in range(cols):
7         value = int(input(f"Enter the value at [{i}][{j}]: "))
8         x.append(value)
9     matrix1.append(x)
10 print('first matrix:',matrix1)
11 rows1= int(input("Enter the number of rows for matrix1: "))
12 cols1= int(input("Enter the number of columns for matrix2: "))
13 matrix2=[]
14 for i in range(rows1):
15     y = []
16     for j in range(cols1):
17         val= int(input(f"Enter the value at [{i}][{j}]: "))
18         y.append(val)
19     matrix2.append(y)
20 print('second matrix',matrix2)
21 result=[[0 for i in range(len(matrix2[0]))] for i in range(len(matrix1))]
22 for i in range(len(matrix1)):
23     for j in range(len(matrix2[0])):
24         for k in range(len(matrix1[0])):
25             result[i][j]+=matrix1[i][k]*matrix2[k][j]
26 print('the multiplication matrix is:',result)
```

```
Enter the number of rows for matrix1: 4
Enter the number of columns matrix1: 3
Enter the value at [0][0]: 1
Enter the value at [0][1]: 2
Enter the value at [0][2]: 3
Enter the value at [1][0]: 4
Enter the value at [1][1]: 5
Enter the value at [1][2]: 6
Enter the value at [2][0]: 7
Enter the value at [2][1]: 8
Enter the value at [2][2]: 9
Enter the value at [3][0]: 0
Enter the value at [3][1]: 1
Enter the value at [3][2]: 2
first matrix: [[1, 2, 3], [4, 5, 6], [7, 8, 9], [0, 1, 2]]
Enter the number of rows for matrix1: 3
Enter the number of columns for matrix2: 2
Enter the value at [0][0]: 1
Enter the value at [0][1]: 2
Enter the value at [1][0]: 3
Enter the value at [1][1]: 4
Enter the value at [2][0]: 5
Enter the value at [2][1]: 6
second matrix [[1, 2], [3, 4], [5, 6]]
the multiplication matrix is: [[22, 28], [49, 64], [76, 100], [13, 16]]
```

3. Write a Python Program to Transpose a Matrix?

In [67]:

```
1 rows = int(input("Enter the number of rows for matrix1: "))
2 cols = int(input("Enter the number of columns matrix1: "))
3 matrix1 = []
4 for i in range(rows):
5     x = []
6     for j in range(cols):
7         value = int(input(f"Enter the value at [{i}][{j}]: "))
8         x.append(value)
9     matrix1.append(x)
10 print('first matrix:',matrix1)
11 result=[[0 for i in range(rows)] for i in range(cols)]
12 for i in range(cols):
13     for j in range(rows):
14         result[i][j]=matrix1[j][i]
15 print('transpose matrix is:',result)
```

Enter the number of rows for matrix1: 3
Enter the number of columns matrix1: 2
Enter the value at [0][0]: 1
Enter the value at [0][1]: 2
Enter the value at [1][0]: 3
Enter the value at [1][1]: 4
Enter the value at [2][0]: 5
Enter the value at [2][1]: 6
first matrix: [[1, 2], [3, 4], [5, 6]]
transpose matrix is: [[1, 3, 5], [2, 4, 6]]

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

In [68]:

```
1 sentence = input("Enter a sentence: ")
2 words = sentence.split()
3 print(words)
4 sorted_words = sorted(words)
5 print("Sorted words:", " ".join(sorted_words))
```

Enter a sentence: ram is god
['ram', 'is', 'god']
Sorted words: god is ram

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

In [70]:

```
1 import string
2 string_with_punctuation = input("Enter a string with punctuation: ")
3 string_without_punctuation = string_with_punctuation.translate(str.maketrans("", "",
4 print("String without punctuation:", string_without_punctuation)
```

Enter a string with punctuation: ramthen djdusm *&BSJH76gj%\$\$^

String without punctuation: ramthen djdusm BSJH76gj

In []:

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