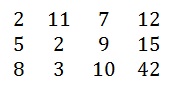
**LIST OF PRACTICALS**

**Topics: 2 D lists and Strings**

1. Write a program to add two matrices of size n x m.
2. Write a program to multiply two matrices.
3. Find the sum of each row of matrix of size m x n. For example, for the following matrix output will be like this:



Sum of row 1 = 32

Sum of row 2 = 31

Sum of row 3 = 63

1. Given an integer n, create a matrix of size (n×n) and populate it as follows, with spaces between each character:

* The positions on the minor diagonal (from the upper right to the lower left corner) receive 1.
* The positions above this diagonal recieve 0.
* The positions below the diagonal receive 2.

Print the elements of the resulting array as given below:

For n=4

0 0 0 1

0 0 1 2

0 1 2 2

1 2 2 2

1. **Swap the columns:** Given two positive integers m and n, m lines of n elements, giving an m×n matrix A, followed by two non-negative integers i and j less than n, swap columns i and j of A and print the result.

Write a function swap\_columns(a, i, j) and call it to exchange the columns.

|  |  |
| --- | --- |
| INPUT: | OUTPUT: |
|  |  |

1. Write a Python program that accepts a string from user. Your program should create and display a new string where the first and last characters have been exchanged. For example if the user enters the string 'HELLO' then new string would be 'OELLH'.
2. Write a Python program that accepts a string from user. Your program should create a new string by shifting one position to left. For example if the user enters the string 'examination 2021' then new string would be 'xamination 2021e'.
3. Write a Python program that accepts a string from user. Your program should create a new string in reverse of first string and display it.

For example if the user enters the string 'EXAM' then new string would be 'MAXE'

1. Write a program that display following output:  
   SHIFT  
   HIFTS  
   IFTSH  
   FTSHI  
   TSHIF  
   SHIFT
2. A palindrome is a string that reads the same backward as forward. For example, the words dad, madam and radar are all palindromes. Write a programs that determines whether the string is a palindrome.

Note: do not use reverse() method.