

OOP Lab 1

Topic: Functions and Arrays

Marks: (5+5+10=20)

Release Date: 24-Sep-20 Thursday

Submission Date & Time: 25-Sep-20 9:00 PM Friday

You may send your lab queries at: asktoknow42@gmail.com

1. Write a function name void **toTitle(char str[])** that takes a char array named str and converts all the letters of the string to title case (First letter of each word is capital and all of the rest are lower case)
Example:
Input: mint TeXt ediTor
output: Mini Text Editor
2. Write a function **bool IsFactorial(int n)** that takes a positive integer n as input parameter and returns true if the number is a factorial number . A factorial number is a number that is resulted from factorial of some number for example 120 is a factorial number because $5! = 120$.
3. Write a function void **printMaxSumSubMatrix(int** M, int N, int k)** to create a dynamic 2D array of size $N \times N$ (N is read from a file) and populate each cell (after reading from a file), find a $k \times k$ submatrix where $k \leq N$ and $k \geq 1$, such that sum of all the elements in submatrix is maximum (amongst all the possible sub-matrices). The value of k is taken from user. The input matrix can contain zero, positive and negative numbers.

You must print the output matrix and the row and col numbers where it starts at.

1	2	-1	4
-8	-3	4	2
3	8	10	-8
-4	-1	1	7

You're given the data in file matrix.txt as follows. First line has matrix's size. Later each line contains row-wise content of matrix, each number separated by a space.

```
4
1 2 -1 4
-8 -3 4 2
```

3 8 10 -8
-4 -1 1 7