

Indian Institute of Technology Kharagpur
Programming Language Lab (MA49015/MA69003)
Assignment – 8

1. Write a C program to remove extra spaces, blanks from a string.
Input:
Input string: "Learn C programming"
Output:
String after removing extra blanks: "Learn C programming"
2. Write a c program to find most frequent character in a given string.
3. Write a program that converts all lowercase characters in a given string to its equivalent uppercase character.
4. Write a program that converts a string like "124" to an integer 124.(with loop and with atoi function both)
5. Given two strings s and t , write a function to determine if t is an anagram of s .
Two string are anagram if both string have same frequency of characters.
Example: anagram and granmaa print true.
read and recd are not anagram return false.
6. Write a C program to insert a dash character (-) between two odd numbers in a given string of numbers.
Example:
Sample Input: 1345789
Sample Output: Result-> 1-345-789
7. Write a C program to change every letter in a given string with the letter following it in the alphabet (ie. a becomes b, p becomes q, z becomes a).
Example:
Sample Input: w3resource
Sample Output: x3sftpv sdf
8. Write a C Program to Compare Two Strings without using strcmp.
9. Define struct {float x,y} point;
Define point mid (point a, point b). It finds mid point of A and B.
10. Define struct {int real, imaginary} complex;
Define Complex mul(complex a, complex b) for multiplication of two complex numbers. Similarly define function for addition of complex numbers.

11. Define vector as follows: typedef struct {float i,j,k;}vector; Using it define following functions float dot product (vector a, vector b) and vector cross product(vector a , vector b).Dot product of $2i+3j+1k$ and $5i+2j+3k$ is 19 and their cross product is $7i-j-11k$.

12. You are given an array of N integers, A1, A2 ,..., AN. Return maximum value of f(i, j) for all $1 \leq i, j \leq N$. f(i, j) is defined as $|A[i] - A[j]| + |i - j|$, where $|x|$ denotes absolute value of x.

For example,

A=[1, 3, -1]

$f(1, 1) = f(2, 2) = f(3, 3) = 0$

$f(1, 2) = f(2, 1) = |1 - 3| + |1 - 2| = 3$

$f(1, 3) = f(3, 1) = |1 - (-1)| + |1 - 3| = 4$

$f(2, 3) = f(3, 2) = |3 - (-1)| + |2 - 3| = 5$

So, we return 5.