DATA STRUCTURES & ALGORITHMS 1

BATCH – A [WEDNESDAY JANUARY 30, 2019: 3:30 PM – 6:30 PM]

LAB ASSIGNMENT – 2 CODE:assign02

NOTES:

i) Please carefully read all assignments and there is no choice.

ii) Use the template for this assignment

iii) Each problem in this assignment has to be answered in the same c file.

iv) Create a .c file following the file name convention:

If your roll number is abc and assignment code is: assign01
Then use the following file name convention as follows:
abc-assign01.c

For example, if the roll number is 92 and assignment code is assign01, then the file name should be 092-assign01.c

v) Strictly follow the file name convention. When you are ready, submit the solution via google classroom.

PROBLEMS [Total Marks: 20]:

For the following problems write functions which satisfies the following

a) The functions should not have a return statement (hence its return type void)

b) All the arguments to the functions should be pointers

c) Follow naming conventions except for variable in for-loop, none of the other variables should be single character.

d) The function names should indicate what they are computing

1) **[Marks: 6]**
Write a recursive function to compute factorial of a given number.

2) **[Marks: 3]**
Write a function which takes in an empty array of size 100 and fills it with the first 100 Fibonacci numbers.

3) **[Marks: 8]**
In main, use dynamic allocation (malloc) to store the integers (taken as input from user) and write a function which takes as input
1) One pointer to the first memory location
2) an integer pointer to store the sum (result-pointer)
Should access the stored integers using the pointer, compute sum and populate the memory location with the result.

4) **[Marks: 3]**
Write a simple function to swap values stored in two variables.