

DATA STRUCTURES

BATCH – B

[MONDAY MARCH 9, 2020: 3:00 PM – 6:00 PM]

ASSIGNMENT – 7

CODE: assign07

INSTRUCTIONS:

[Total Marks: 20]

- i) Read all assignments and each problem has to be answered in the same c file.
- ii) Create a .c file following the file name convention: abc-assign07.c
Where abc is your roll number and assign07 is the assignment code

PROBLEMS:

1) [Marks: 10 marks]

Write a function to find next greater element in array. Given an array, print the Next Greater Element (NGE) for every element. The Next greater Element for an element x is the first greater element on the right side of x in array. Elements for which no greater element exist, consider next greater element as -1.

Example: I/P: 5, 4, 29, 52, 12, 13

2) [Marks: 5 marks]

Write a function to check if a queue can be sorted into another queue using stacks.

Given a Queue consisting of first **n** natural numbers (in random order). The task is to check whether the given Queue elements can be arranged in increasing order in another Queue using a stack. The operation allowed are:

1. Push and pop elements from the stack
2. Pop (Or enqueue) from the given Queue.
3. Push (Or Dequeue) in the another Queue..

I/P: 3,4,6,1,2,9,0

3) [Marks: 5 marks]

Write a program to convert given infix to prefix using stacks.

I/P: A+(B*C-(D/E^F)*G)*H