

2nd Programming Assignment

Deadline: 30th September, 2020

1. Write a C/C++ program to implement a queue using 2 stacks.

Hint:

Operations on Queue: **insert**(*tail*), **delete**(*head*)

Operations on Stack: **push**(*sp*), **pop**(*sp*) where *sp* is the stack pointer

Let the 2 stacks be *stack-1*, *stack-2*

tail will be *sp-1* and *head* will be *sp-2*

At an intermediate step you perform insert queue operation on *stack-1* and delete queue operation on *stack-2*.

You have to keep a check on empty and full condition of the stacks.

If at the time of deletion you find *stack-2* to be empty you have to transfer the content of *stack-1* to *stack-2* provided *stack-1* is not empty and then perform the delete operation.

If at the time of insertion you find *stack-1* to be full then transfer the content of *stack-1* to *stack-2* provided *stack-2* is empty otherwise block the insertion.

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2. Write a C/C++ to write the program of Tower-of-Hanoi non-recursively using stack.

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