Assignment 2

Question no. 1

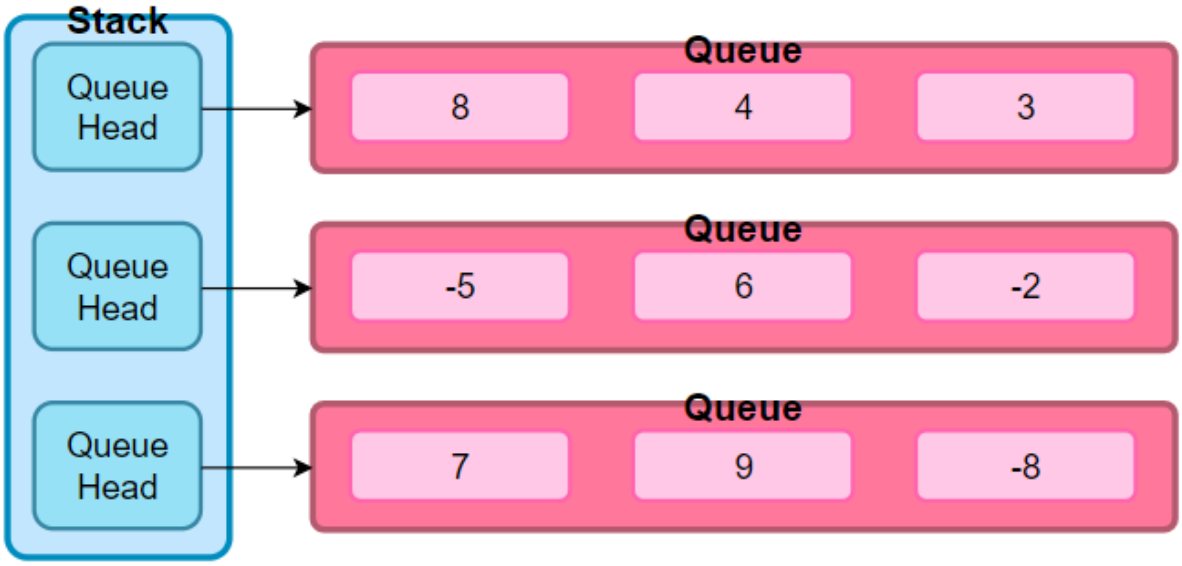
100 marks

Consider you have a matrix but this time not an ordinary matrix but a matrix of stack and queues. Matrix will be composed of a column of stack and each index of stack will contain the row of queue. This will form a structure like a matrix.

Example:

$$\begin{bmatrix} 8 & 4 & 3 \\ -5 & 6 & -2 \\ 7 & 9 & -8 \end{bmatrix}$$

In stack and queue form



Note:

You must implement your own structure of stack and queues. You cannot use built-in classes.

Your task is to perform basic operations of a matrix.

1. Addition
2. Subtraction
3. Multiplication
4. Division
5. Sub-matrix
6. Transpose of a matrix

You must perform all operations of a matrix with recursion. No marks will be given if done without recursion.