dGiven the following data:

Input for the string stacks/queues/deques

Mark, Alan, Rick, Eric, Jennifer, JoAnn, Bill

Input for the double stacks/queues/deques

44.44, 888.55, 88.88, 123.123, 8.445, 983.3

• Implement and print (top of stack to bottom) the stacks using the STL <stack> with the above data.

• Delete Rick and 88.88 from the above stacks (you will need to delete others) using the STL <stack> and print (top of stack to bottom) the remaining elements in the stacks.

• Implement and print (top of stack to bottom) the stacks using a singly linked list using the above data. Do not use the STL.

• Delete Rick and 88.88 from the above stacks (you will need to delete others) and print (top of stack to bottom) the remaining elements in the stacks. Do not use the STL.

• Implement and print the queues using either a circular array or a linked list using the above data. Do not use the STL.

• Delete Rick and 88.88 from the above queues (you will need to delete others) and print the remaining elements in the queues. Do not use the STL.

• Implement and print the deques using a linked list using the above data (using push front). Do not use the STL.

• Delete Rick (pop front) and 88.88 (pop back) from the above deques (you will need to delete others) and print the remaining elements in the deques. Do not use the STL.

Label your output (part A, part B, part C, etc.)

Use only one execution.

In a separate execution:

• Implement the Parentheses Algorithm without using the STL). Test your algorithm with the following mathematical statements.

• (extra credit – 3 points) If valid, write software to evaluate the expressions assuming x = -1.

{2x - 8) (12x + 6)

{{8x+5) - 5x[9x+3]})

{2x + 5} (6x+4)

(((4x+8) - x[4x+3])))

[(5x - 5) - 4x[6x + 2]]

{(8x+5) - 6x[9x+3]]

(12x + 6) (2x - 4)

Your output should CLEARLY demonstrate the above. Print out the part number before you display the stacks/queues/deques.

Due February 5th

Submit your assignment in a folder.