Time: 30 Min [Total Marks: 05]

1. Suppose, your friend wants to play a very interesting number game with you. You will have two stacks of non-negative integers and an integer value of maxSum. Basic rules of the game are given below:

* In each move, you can remove one integer from the top of either Stack 1 or Stack 2. (You have to figure out which you should remove first)
* You have to keep a track of the sum of the integers you remove from the two stacks in each move.
* You will be disqualified from the game if, at any point, your total sum so far becomes greater than the maxSum integer given at the beginning of the game.
* Your final score is the total number of integers you have removed from the given two stacks without their total sum exceeding the maxSum limit.
* Given Stack1, Stack2 and maxSum for the game, find the maximum possible score you can achieve.

Tasks:

1. Implement the push(elem), pop( ), peek( ) function of the Stack class. [2]
2. Implement the MaxIntOut(st1, st2, maxSum) function. [3]

| Sample Input | Sample Output |
| --- | --- |
| Stack1 : 3 6 8 4 2  Stack2 : 5 7 9 2 1  maxSum: 9  *(Rightmost element is the Top element)* | 4  **Explanation:**  Here, we remove 2, 4 from Stack1 and 1, 2 from Stack2. Sum = 2 + 4 + 1 + 2 = 9  So, we can remove a maximum of 4 integers without exceeding the maxSum limit. |
| Stack1 : 9 1 3 7 4  Stack2 : 7 5 8 2 6  maxSum: 12  *(Rightmost element is the Top element)* | 3  **Explanation:**  Here, we remove 4 from Stack1 and 6, 2 from Stack2. Sum = 4 + 6 + 2 = 12  So, we can remove a maximum of 3 integers without exceeding the maxSum limit. |

Colab File: [CSE220LabMid](https://colab.research.google.com/drive/1SmsilGhlf36TyOSNC2XAAM9vHSQZTKot?authuser=3)