CSE220: Data Structures (Lab)

Fall 2024

Lab Quiz - 06

Duration: 20 Minutes

| Name: | ID: | Section: |
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### **Question 1 [15 Points]**

You are given two arrays and , both consisting of integers. Starting from index 0, for each element in , you must add it to the current smallest integer in . After processing all elements in , return array sorted in non-decreasing order.

**You are only allowed to use the insert() and extract() method from MinHeap/MaxHeap. Do not use any other functions (for example, sort()).**

def add\_arrays(n, A, B):

//to do

| Input | Output | Explanation |
| --- | --- | --- |
| n = 3  A = [1, 3, 5]  B = [2, 4, 6] | A = [5, 7, 9] | Initially, A=[1, 3, 5], B = [2, 4, 6]   1. Add B[0]=2 to the smallest integer A[0]=1. A becomes [3, 3, 5]. 2. Add B[1]=4 to the smallest integer A[0]=3. A becomes [7, 3, 5]. 3. Add B[2]=6 to the smallest integer A[2]=3. A becomes [7, 9, 5].   Finally, make A non-decreasing to get [5,7,9]. |