



CSE220: Data Structures (Lab)  
Fall 2024  
Lab Quiz - 06  
Duration: 20 Minutes

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

You are given two arrays  $A$  and  $B$ , both consisting of  $n$  integers. Starting from index 0, for each element in  $B$ , you must add it to the current smallest integer in  $A$ . After processing all elements in  $B$ , return array  $A$  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
$n = 3$ $A = [1, 3, 5]$ $B = [2, 4, 6]$	$A = [5, 7, 9]$	<p>Initially, <math>A=[1, 3, 5]</math>, <math>B = [2, 4, 6]</math></p> <ol style="list-style-type: none"><li>1. Add <math>B[0]=2</math> to the smallest integer <math>A[0]=1</math>. <math>A</math> becomes <math>[3, 3, 5]</math>.</li><li>2. Add <math>B[1]=4</math> to the smallest integer <math>A[0]=3</math>. <math>A</math> becomes <math>[7, 3, 5]</math>.</li><li>3. Add <math>B[2]=6</math> to the smallest integer <math>A[2]=3</math>. <math>A</math> becomes <math>[7, 9, 5]</math>.</li></ol> <p>Finally, make <math>A</math> non-decreasing to get <math>[5,7,9]</math>.</p>