**Question 2.** Max. Marks 40

### The Maximum Subarray

Given an array A of N elements, find the maximum possible sum of a

```
1. Contiguous subarray
2. Non-contiguous (not necessarily contiguous) subarray.
```

Empty subarrays/subsequences should not be considered.

**Input Format**

First line of the input has an integer T. T cases follow. Each test case begins with an integer N. In the next line, N integers follow representing the elements of array A.

**Constraints:**

```
1 <= T <= 10
1 <= N <= 10^5
-10^4 <= a_i <= 10^4
```

**The subarray and subsequences you consider should have at least one element.**

**Output Format**

Two, space separated, integers denoting the maximum contiguous and non-contiguous subarray. At least one integer should be selected and put into the subarrays (this may be required in cases where all elements are negative).

**Sample Input**

```
2
4
1 2 3 4
6
2 -1 2 3 4 -5
```

**Sample Output**

```
10 10
10 11
```

**Explanation**

In the first case: The max sum for both contiguous and non-contiguous elements is the sum of ALL the elements (as they are all positive). In the second case: [2 -1 2 3 4] --> This forms the contiguous sub-array with the maximum sum. For the max sum of a not-necessarily-contiguous group of elements, simply add all the positive elements.