

Given  $N$  non-negative integers  $a_1, a_2, \dots, a_n$  where each represents a point at coordinate  $(i, a_i)$ .  $N$  vertical lines are drawn such that the two endpoints of line  $i$  is at  $(i, a_i)$  and  $(i, 0)$ . Find two lines, which together with x-axis forms a container, such that it contains the most water.

Note : In Case of single verticle line it will not be able to hold water.

**Example 1:**

**Input:**

$N = 4$

$a[] = \{1, 5, 4, 3\}$

**Output:** 6

**Explanation:** 5 and 3 are distance 2 apart.

So the size of the base = 2. Height of container =  $\min(5, 3) = 3$ . So total area =  $3 * 2 = 6$ .

**Example 2:**

**Input:**

$N = 5$

$a[] = \{3, 1, 2, 4, 5\}$

**Output:** 12

**Explanation:** 5 and 3 are distance 4 apart.

So the size of the base = 4. Height of container =  $\min(5, 3) = 3$ . So total area =  $4 * 3 = 12$ .

**Your Task :**

You only need to implement the given function **maxArea**. Do not read input, instead use the arguments given in the function and return the desired output.

**Expected Time Complexity:**  $O(N)$ .

**Expected Auxiliary Space:**  $O(1)$ .

**Constraints:**

$1 \leq N \leq 10^5$