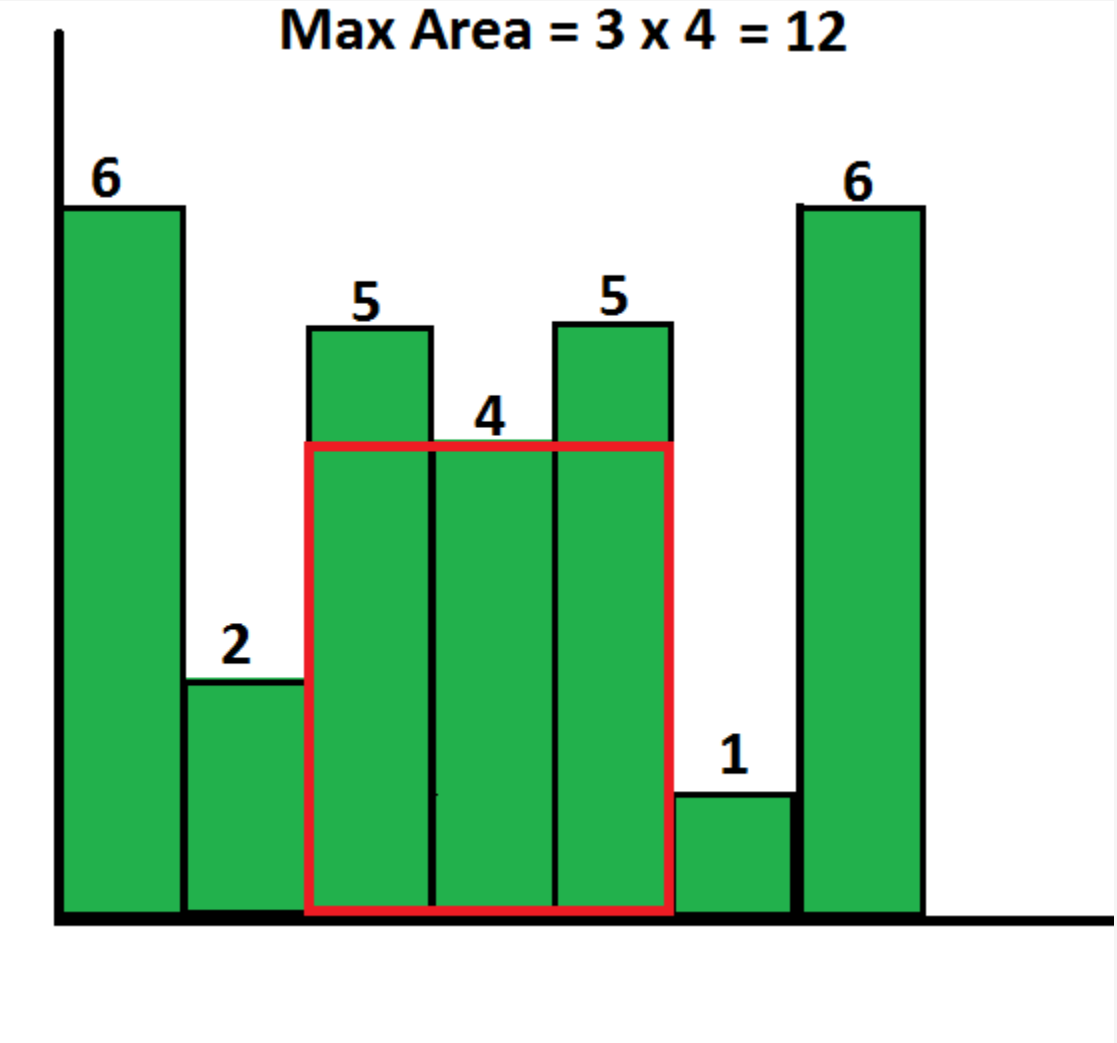
Maximum Rectangular Area in a Histogram

Find the largest rectangular area possible in a given histogram where the largest rectangle can be made of a number of contiguous bars. For simplicity, assume that all bars have the same width and the width is **1 unit**, there will be **N** bars height of each bar will be given by the array **arr**.

Example 1:

Input:
N = 7
arr[] = {6,2,5,4,5,1,6}
Output: 12
Explanation:



Example 2:

```
Input:
N = 8
arr[] = {7 2 8 9 1 3 6 5}
Output: 16
Explanation: Maximum size of the histogram
will be 8  and there will be 2 consecutive
histogram. And hence the area of the
histogram will be 8x2 = 16.
```

Your Task:

The task is to complete the function **getMaxArea**() which takes the array arr[] and its size N as inputs and finds the largest rectangular area possible and **returns** the answer.

Expected Time Complxity : O(N)
Expected Auxilliary Space : O(N)

Constraints:

$1 \leq N \leq 10^6$
$1 \leq arr[i] \leq 10^{12}$