**Sliding Window Maximum**

You are given an array of integers arr and a positive integer k. Your task is to find the maximum element in each sliding window of size k. The window slides from left to right, one element at a time, and you need to return the maximum element for each of these windows.

**Input:**

* An integer array arr of size n, where 1≤n≤105
* An integer k, where 1≤k≤n

**Output:**

* An array of size n−k+1 containing the maximum element from each sliding window.

**Examples:**

* Example 1  
  Input: arr = [1, 3, -1, -3, 5, 3, 6, 7], k = 3

Output: [3, 3, 5, 5, 6, 7]  
Explanation:

* The first window is [1, 3, -1] → Maximum = 3
* The second window is [3, -1, -3] → Maximum = 3
* The third window is [-1, -3, 5] → Maximum = 5
* The fourth window is [-3, 5, 3] → Maximum = 5
* The fifth window is [5, 3, 6] → Maximum = 6
* The sixth window is [3, 6, 7] → Maximum = 7

**Constraints:**

* The elements of the array can be positive, negative, or zero.

**Test Cases:**

1. Input: arr = [1, 5, 3, 2, 4, 6], k = 3

Output: [5, 5, 4, 6]

1. Input: arr = [1, 2, 3, 4], k = 2

Output: [2, 3, 4]

1. Input: arr = [7, 7, 7, 7], k = 1

Output: [7, 7, 7, 7]

**Edge Cases:**

1. Single Element Array: The array contains only one element
2. Window Size 1: The window size is 1, so each element is its own maximum
3. Array with All Same Elements: If all elements in the array are the same, the maximum for every window will be the same element.