Find Maximum in Sliding Window

Try to solve the Find Maximum in Sliding Window problem.

We'll cover the following

- Statement
- Examples
- Understand the problem
- Figure it out!
- Try it yourself

Statement

Given an integer list, `nums`, find the maximum values in all the contiguous subarrays (windows) of size `w`.

> **Note:** If the window size is greater than the array size, we consider the entire array as a single window.

Constraints:

- $1 \leq$ `arr.length` $\leq 10^3$
- $-10^4 \leq$ `arr[i]` $\leq 10^4$
- $1 \leq$ `w`

Examples

Sample example 1

Input

nums	-4	2	-5	3	6

window size	3

Output

Output	2	3	6

1 of 3

Understand the problem

Let's take a moment to make sure you've correctly understood the problem. The quiz below helps us to check if you're solving the correct problem:

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1 What should be the output if the following input is given?

`nums` = [-4, 5, 4, -4, 4, 6, 7, 20]

`w` = 2

A) [5, 4, 6, 20]

B) [5, 20]

C) [5, 5, 4, 4, 6, 7, 20]

D) [5, 5, 4, 6, 6]

Submit Answer

Question 1 of 4
0 attempted

Reset Quiz

Figure it out!

We have a game for you to play. Rearrange the logical building blocks to develop a clearer understanding of how to solve this problem.

Drag and drop the cards to rearrange them in the correct sequence.

Create a collection (of your own choice) to process the elements of the input list.

Process the first window such that, at the end of the iteration, the elements of the first window are present in your collection in descending order.

When the first window has been processed, add the first element from your collection

to the output list, since this will be the maximum in the first window.

Process the remaining windows using the same logic used to process the first window.

In each iteration, add the first element from your collection to the output list and slide the window one step forward.

Return the output list.

Reset | Show Solution | Submit

Try it yourself

Implement your solution in the following coding playground:

```java
import java.util.*;

class SlidingWindowMaximum {
    public static int[] findMaxSlidingWindow(int[] nums, int w) {
        // your code will replace the placeholder return statement below
        return new int[0];
    }
}
```

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Test Cases | Results

Case 1 | Case 2 | Case 3

Input #1

[1,2,3,4,5,6,7,8,9,10]

Input #2

3

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