

โจทย์ข้อที่ 9

### JS Mowing the Lawn

Create a function that takes in an array of grass heights and a variable sequence of lawn mower cuts and outputs the array of successive grass heights. If after a cut, any single element in the array reaches zero or negative, return "Done" instead of the array of new heights. A demo: `cuttingGrass([3, 4, 4, 4], 1, 1, 1) → ...`

arrays higher\_order\_functions language\_fundamentals

Very Hard

#### introductions

## Mowing the Lawn

Published by [Helen Yu](#) in [JavaScript](#)

bookmark

arrays

higher\_order\_functions

language\_fundamentals



Create a function that takes in an array of grass heights and a **variable** sequence of lawn mower cuts and outputs the array of successive grass heights.

If **after a cut**, any single element in the array reaches zero or negative, return `"Done"` instead of the array of new heights.

A demo:

```
cuttingGrass([3, 4, 4, 4], 1, 1, 1) → [[2, 3, 3, 3], [1, 2, 2, 2], "Done"]

// 1st cut shaves off 1: [3, 4, 4, 4] → [2, 3, 3, 3]
// 2nd cut shaves off 1: [2, 3, 3, 3] → [1, 2, 2, 2]
// 3rd cut shaves off 1: [1, 2, 2, 2] → [0, 1, 1, 1], but one element reached 0
```

## Examples

```
cuttingGrass([5, 6, 7, 5], 1, 2, 1)
→ [[4, 5, 6, 4], [2, 3, 4, 2], [1, 2, 3, 1]]

cuttingGrass([4, 4, 4, 4], 1, 1, 1, 1)
→ [[3, 3, 3, 3], [2, 2, 2, 2], [1, 1, 1, 1], "Done"]

cuttingGrass([8, 9, 9, 8, 8], 2, 3, 2, 1)
→ [[6, 7, 7, 6, 6], [3, 4, 4, 3, 3], [1, 2, 2, 1, 1], "Done"]

cuttingGrass([1, 0, 1, 1], 1, 1, 1) → ["Done", "Done", "Done"]
```

## Notes

- The number of lawn cuts is variable.
- There will be at least one cut.
- Return "Done" onwards for each additional cut if the grass has already been completely mowed (see fourth example).

[SUGGEST EDIT](#)

## Code

assign > JS Mowing\_the\_Lawn.js > cuttingGrass

```
1 function cuttingGrass(arr, ...cuts) {
2   let results = [];
3   for(x=0;x<cuts.length;x++){
4     let res = [];
5     let zero = false;
6     for(y=0;y<arr.length;y++){
7       if(arr[y]>0){
8         arr[y]-=cuts[x];
9       }
10      res[y]=arr[y];
11      if(arr[y]==0){
12        zero = true
13      }
14    }
15    if(zero){
16      results.push('Done');
17    }else{
18      results.push(res);
19    }
20  }
21  return results;
22 }
```

```

23
24 console.log(cuttingGrass([4, 4, 4, 4], 1, 1, 1, 1)//, [[3, 3, 3, 3], [2, 2, 2, 2], [1, 1, 1, 1], "Done"])
25
26 console.log(cuttingGrass([5, 6, 7, 5], 1, 2, 1))//[[4, 5, 6, 4], [2, 3, 4, 2], [1, 2, 3, 1]]
27
28 console.log(cuttingGrass([8, 9, 9, 8, 8], 2, 3, 2, 1))//[[6, 7, 7, 6, 6], [3, 4, 4, 3, 3], [1, 2, 2, 1, 1], "Done"])
29
30 console.log(cuttingGrass([1, 0, 1, 1], 1, 1, 1, 1))//["Done", "Done", "Done"])
31
32 console.log(cuttingGrass([4, 5, 4, 5], 2, 1, 1))//[[2, 3, 2, 3], [1, 2, 1, 2], "Done"])
33
34 console.log(cuttingGrass([4, 2, 2], 2, 1, 1))//["Done", "Done", "Done"])

```

Run

```

[ 'Done', 'Done', 'Done' ] [ 'Done', 'Done', 'Done' ]
PS C:\Users\Admin\Desktop\JSpilot\JavaScript\assign> node .\Mowing_the_Lawn.js
[ [ 3, 3, 3, 3 ], [ 2, 2, 2, 2 ], [ 1, 1, 1, 1 ], 'Done' ]
[ [ 4, 5, 6, 4 ], [ 2, 3, 4, 2 ], [ 1, 2, 3, 1 ] ]
[ [ 6, 7, 7, 6, 6 ], [ 3, 4, 4, 3, 3 ], [ 1, 2, 2, 1, 1 ], 'Done' ]
[ 'Done', 'Done', 'Done' ]
[ [ 2, 3, 2, 3 ], [ 1, 2, 1, 2 ], 'Done' ]
[ 'Done', 'Done', 'Done' ]
PS C:\Users\Admin\Desktop\JSpilot\JavaScript\assign> 

```