

# GFSS Christmas Challenge P4 - Coal Counting

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**Time limit:** 1.0s    **Memory limit:** 256M

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Santa is known for giving presents to all the well-behaved children. However, he is also known for giving coal to the naughty ones. Santa has managed to create a system that quantifies a child's naughtiness. For each of the  $N$  children he visits, he assigns them a naughtiness value  $v_i$ .

For each year, over the course of  $M$  years, Santa's boss (his wife), gives him an integer  $h_j$  representing the naughty threshold for the  $j$ -th year. Each kid with a naughtiness value **greater than or equal to** the naughty threshold for that year will be given a piece of coal.

Your task is to print out the number of children who receive coal for each year on separate lines.

## Constraints

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$$1 \leq N, M \leq 10^5$$

$$1 \leq v_i, h_j \leq 10^9$$

### Subtask 1 [30%]

$$1 \leq N, M, v_i, h_j \leq 10^3$$

### Subtask 2 [50%]

$$1 \leq v_i, h_j \leq 10^6$$

### Subtask 3 [20%]

No additional constraints.

## Input Specification

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The first line of input contains  $N$  and  $M$ .

The next line contains  $N$  space separated integers, the  $i$ -th of which representing  $v_i$ .

The next line consists of  $M$  space separated integers, the  $j$ -th of which representing  $h_j$ .

## Output Specification

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For each year from 1 to  $M$ , print the number of children who receive coal, each on its own line.

## Sample Input

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4 2
5 8 2 3
4 3
```

## Sample Output

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2
3
```

## Explanation

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In year 1, Santa gives coal to children 1 and 2. In year 2, Santa gives coal to children 1, 2 and 4.