A marble factory has donated a large box of marbles to a kindergarten. Each marble has one out of **M** different colours. The governess needs to divide **all** the marbles between the **N** children in her group. It is acceptable if some children don't get any marbles. However, no child wants marbles of different colours – in other words, all marbles that a child gets need to be the **same colour**.

The governess also knows that children will be jealous if a child gets too many marbles. As an approximation, we will define the **envy level** in the group as the **largest** number of marbles given to one child. Help the governess divide the marbles in order to **minimize** the envy level.

For example, if the box contains 4 red marbles (RRRR) and 7 blue marbles (BBBBBBB) which we have to divide between 5 children, we can achieve an envy level of 3 by dividing the marbles in the following way: RR, RR, BB, BB, BBB. This is the lowest achievable envy level.

INPUT

The first line of input contains two positive integers, **N** ($1 \leq \mathbf{N} \leq 10^9$), the number of children, and **M** ($1 \leq \mathbf{M} \leq 300\,000$, $\mathbf{M} \leq \mathbf{N}$), the number of different colours.

Each of the following **M** lines contains a positive integer from the interval $[1, 10^9]$, with the integer in line **K** denoting the number of marbles with colour **K**.

OUTPUT

The first and only line of output should contain the minimum possible envy level.

SAMPLE TESTS

input	**input**
5 2 7 4	7 5 7 1 7 4 4
output	**output**
3	4