

Problem J

Sharing Bread

There are N toasters, numbered from 1 to N , from left to right. Initially, each toaster has a single piece of bread in it. There are M people, numbered from 1 to M , who are one by one looking for bread among the toasters, starting from person 1, person 2, and so on.

Person i starts looking from toaster a_i ($1 \leq a_i \leq N$) and keeps going right until they found a toaster with a piece of bread in it. In other words, person i is looking for the smallest j such that $a_i \leq j \leq N$ and toaster j contains bread. If such a toaster exists, then person i will take the bread from that toaster and leave; the toaster becomes empty afterward. If such a toaster does not exist, then person i will leave empty-handed.

A starting sequence (a_1, a_2, \dots, a_M) is *fair* if person i starts looking from toaster a_i and does not leave empty-handed, for all $1 \leq i \leq M$. Out of all N^M possible starting sequences, determine how many of them are fair modulo 998 244 353.

Input

Input consists of two integers N M ($1 \leq M \leq N \leq 200\,000$) in a single line representing the number of toasters and the number of people, respectively.

Output

Output an integer in a single line representing the number of fair starting sequence modulo 998 244 353.

Sample Input #1

```
4 3
```

Sample Output #1

```
50
```

Explanation for the sample input/output #1

One of the possible fair starting sequences is $(4, 2, 2)$. First, person 1 starts looking from toaster 4 and takes the bread from toaster 4. Then, person 2 starts looking from toaster 2 and takes the bread from toaster 2. Finally, person 3 will start looking from toaster 2, which is currently empty. Person 3 moves to toaster 3 and takes the bread from toaster 3. Since each person gets a piece of bread, the starting sequence $(4, 2, 2)$ is fair.

Another example of fair starting sequences are $(1, 1, 1)$, $(1, 1, 2)$, $(2, 3, 4)$, and $(2, 2, 2)$. Some of the possible starting sequences that are not fair are $(3, 3, 3)$, $(3, 4, 3)$, $(4, 4, 1)$, and $(4, 4, 4)$.

Sample Input #2

```
10 1
```

Sample Output #2

10

Explanation for the sample input/output #2

All starting sequences are fair.

Sample Input #3

2 2

Sample Output #3

3

Explanation for the sample input/output #3

The only starting sequence that is **not** fair is $(2, 2)$. Person 1 starts looking from toaster 2 and takes the bread from toaster 2. Then, person 2 starts looking from toaster 2, which is currently empty. Since there is no more toaster to the right of toaster 2, person 2 will leave empty-handed.