Problem F
Final Ranking

After the ICPC Vietnam National contest, the judges proposed a way to give k types of medals to the teams as below:

- The rank of a team equals *the number of teams that have higher score* plus 1
- k types of medals are numbered from 1 to k, medals numbered with smaller indices represent better rankings.
- If the rank of a team is r and $r \leq k$, this team will get the medal of type r.

This is an example of a final ranking from the ICPC national contest where 3 types of the medals (gold, silver, bronze) will be awarded. You can see that there might be types of medals that are not given to any teams and there might be more than k teams which are awarded medals.

In this example, medals distribution per types are 2 gold, 0 silver and 2 bronze or formally $[2, 0, 2]$.

Rank	Team	Score	Medal
1	HCMUS-RationalKittens	12	Gold
1	PENDLE	12	Gold
3	Vaccinated	11	Bronze
3	Meld	11	Bronze
7	HCMUS-FlamingTomatoes	10	
7	HCMUS-Clique	10	
7	NANO	10	
7	HCMIU_ThinkingTourists	10	
9	Secret	9	
9	ETHEREUM	9	

Given n and k, you task is to calculate the number of possible medal distributions.

Input

Input contains 2 integers n and k ($1 \leq k \leq n \leq 10^6$).

Output

Print a single integer denoting the number of possible medal distributions. Since this number could be rather large, you should output it modulo $10^9 + 7$.

Explanation of the samples

With $n = 4$ and $k = 3$, there are 8 possible rankings:

Ranking	Medal distribution
$[1, 1, 1, 1]$	$[4, 0, 0]$
$[1, 1, 1, 4]$	$[3, 0, 0]$
$[1, 1, 3, 3]$	$[2, 0, 2]$
$[1, 1, 3, 4]$	$[2, 0, 1]$
$[1, 2, 2, 2]$	$[1, 3, 0]$
$[1, 2, 2, 4]$	$[1, 2, 0]$
$[1, 2, 3, 3]$	$[1, 1, 2]$
$[1, 2, 3, 4]$	$[1, 1, 1]$

With $n = 4$ and $k = 2$, there are also 8 possible rankings but only 6 medal distributions:

Ranking	Medal distribution
$[1, 1, 1, 1]$	$[4, 0]$
$[1, 1, 1, 4]$	$[3, 0]$
$[1, 1, 3, 3]$	$[2, 0]$
$[1, 1, 3, 4]$	$[2, 0]$
$[1, 2, 2, 2]$	$[1, 3]$
$[1, 2, 2, 4]$	$[1, 2]$
$[1, 2, 3, 3]$	$[1, 1]$
$[1, 2, 3, 4]$	$[1, 1]$

Sample Input 1

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4 3
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Sample Output 1

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8
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Sample Input 2

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4 2
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Sample Output 2

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6
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