- "I'm stopping by Žnidaršić's house, you play the piano, Perica."
- "Ok, dad, I will!"

And so, Perica began playing the piano. His piano consists of $N$ keys. Each key has a value written on it, $a_i$. When Perica plays the piano, he presses exactly $K$ different keys at the same time. The piano is a bit strange because, after pressing $K$ keys at the same time, it will play only the key with the largest value. Perica is going to play each combination of $K$ keys on the piano and he wants to know the sum of values of the keys that will be played.
Help Perica determine the **remainder** of that number modulo 1 000 000 007.

## INPUT

The first line of input contains two integers $N$ and $K$ ($1 \leqslant N \leqslant 100\,000$, $1 \leqslant K \leqslant 50$).
The following line of input contains $N$ integers $a_i$ ($0 \leqslant a_{ij} \leqslant 10^9$).

## OUTPUT

The first and only line of output must contain the required number from the task.

## SCORING

In test cases worth 40% of total points, it will additionally hold $1 \leqslant N \leqslant 1000$.

## SAMPLE TESTS

| **input** | **input** | **input** |
|---|---|---|
| 5 3<br>2 4 2 3 4 | 5 1<br>1 0 1 1 1 | 5 2<br>3 3 4 0 0 |
| **output** | **output** | **output** |
| 39 | 4 | 31 |

**Pojašnjenje prvog primjera:** All selections of K keys are: [2, 4, 2], [2, 4, 3], [2, 4, 4], [2, 2, 3], [2, 2, 4], [2, 3, 4], [4, 2, 3], [4, 2, 4], [4, 3, 4], [2, 3, 4].