# Scheduler

This is an easier version of the Scheduler Redux problem.

In this challenge you must figure out how quickly $N$ jobs can be completed by $M$ workers. Each job will take $2^x$ amount of time, where $x$ is a non-negative integer.

Since the amount of time could be quite large, you should indicate the amount of time needed modulo $10^9 + 7$.

**In this easier version of the problem, no two jobs will have the same time to finish.**

## Standard input

Each input has a single test case.

The input begins with a line containing two space-separated integers, $N$ and $M$. $N$ specifies the number of jobs, and $M$ specifies the number of workers.

The next line of input contains $N$ integers, where the ith integer, $X_i$, indicates that job i takes $2^{X_i}$ time.

## Standard output

Output the minimum amount of time required to complete all of the jobs, modulo $10^9 + 7$.

## Constraints and notes

- $1 \le N \le 100,000$
- $1 \le M \le 20$
- $0 \le X_i < 100,000$
- For any $i \ne j$, $X_i \ne X_j$

| Input | Output | Explanation |
|---|---|---|
| 4 3<br>0 1 2 4 | 16 | The job times, respectively, are 1, 2, 4, 16.<br><br>One strategy is to give job 1 and 3 to Worker 1, Job 2 to Worker 2, and Job 4 to Worker 3. Worker 1 would complete the jobs in 5 time units (1 + 4). Worker 2 would complete the job in 2 time units, and worker 3 would complete the job in 16 units. So, the time needed is 16. |
| 2 1<br>1 2 | 6 | |
| 5 5<br>1 2 4 9999 10000 | 905611805 | |