Ahmet has planted $N$ trees in a line. The type of $k$-th tree is $T_k$. Ozan wants to create $M$ gardens by building $M - 1$ walls between the trees so that the tree line is splitted into $M$ line segments each being a separate garden. Note that some gardens may contain no tree.

"Beauty" of a garden is equal to the number of distinct tree types in it. What is the maximal possible total "beauty" of the gardens?

**Input**

The first line contains two integers $N$ and $M$ separated by a single space. The next line contains $N$ integers $T_1, \ldots, T_N$ separated by single spaces.

**Output**

The maximal possible total garden "beauty".

**Constraints**

- $1 \leq N \leq 5000$,
- $1 \leq M \leq 100$,
- $1 \leq T_k \leq 10^9$.

**Example**

**Input**

```
7 4
4 7 4 1 2 4 2
```

**Output**

```
7
```

**Notes**

In the sample one of the optimal solutions is to form the following gardens:
• the first and the second trees;
• the third tree;
• the fourth and the fifth trees;
• the sixth and the seventh trees. Then the overall "beauty" is $2 + 1 + 2 + 2 = 7$. 