Avoid the Rain

Time Limit: 1 Second
Memory Limit: 2048 MB

Oh no! LetianPie forgot to bring an umbrella with him today and it's raining heavily! Unfortunately, he has several classes to catch so he has to walk across the campus in the rain. LetianPie knows that he will certainly get a cold if he walks for more than t minutes in the rain. Therefore, before he starts his trip today, he wants to know if he is doomed to get a cold, even if he adopts the best strategy, so that he can start writing emails to professors asking to excuse his absence tomorrow. The campus can be viewed as an undirected graph with n vertices (intersections) and m edges (roads). Among these n vertices, k of them are buildings where LetianPie needs to visit to take classes. Assume that LetianPie is initially located in one of these k buildings and can visit the buildings in any order, and his classes will be long enough to get his clothes dry.

Input

The first line of input contains four integers n, m, k, and t ($1 \leq n \leq 100$, $n - 1 \leq m \leq \frac{n(n-1)}{2}$, $1 \leq k \leq n$, $0 \leq t \leq 10^9$), as described in the problem statement.

The following line contains k integers $a_1, \ldots, a_k$ ($1 \leq a_i \leq n$) - vertices that are buildings.

The next m lines describe the edges. Each line contains three integers u, v, and w ($1 \leq u, v \leq n, 1 \leq w \leq 10^7$), denoting an undirected road between u and v that takes w minutes to walk from one end to the other. It is guaranteed that there are no self-loops or multiple edges.

Output

Output `YES` if LetianPie can avoid walking in the rain for more than t minutes while visiting all vertices at least once, and `NO` otherwise.

Sample Inputs

```
5 4 2 4
1 2
1 3 2
2 3 3
1 4 1
2 4 1
```

Sample Outputs

```
YES
```

Note

LetianPie can travel between the buildings at vertex 1 and vertex 2 in 2 minutes, so he won't get ill.