Mock CCO '17 Problem 5 - Blitzkrieg

Time limit: 1.4s **Memory limit:** 256M

imaxblue has successfully killed Fuehrer King Bradley, but he must now escape. His time machine requires a lightning storm to gain enough energy. There are N cities in Amestris and M roads. **imaxblue** is located in city A and the time machine is in city B. There are D days before the lightning storm, on which **imaxblue** must be located in city B. In addition, **imaxblue** would like to make sure that there are at least K distinct paths to city B, to make it harder for the Amestris army to track him. Unfortunately, each road has an alertness level. Note that **imaxblue** must change take a road each day, or the Amestris army will catch up to him.

imaxblue would like to know the minimum alertness level he is required to pass in order to have K distinct paths of length D from A to B, or -1 if it is impossible.

Subtasks

For all cases, $N \leq 100$, $M \leq 10\,000$, $D, K \leq 10^9$.
For 4 points, $D, K = 1$.
For additional 2 points, $N, M, D, K \leq 10$.
For additional 4 points, $D \leq 10$.

Input Specification

Line 1: N, M, D, K, A and B.
Next M lines: 3 integers, x, y and w, representing a bidirectional path from x to y with alertness w.
Note: There may be multiple paths between two nodes.

Sample Input

```
3 5 6 3 0 2
0 1 5
0 0 4
1 2 1
1 2 6
0 2 12
```

Sample Output

```
5
```