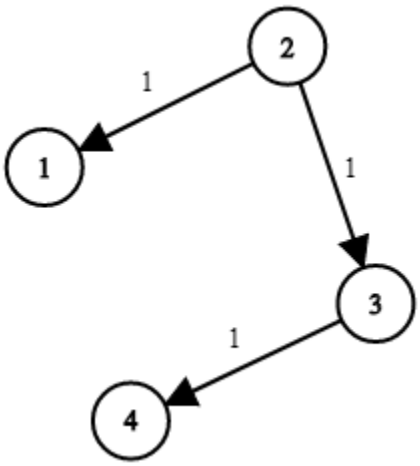
There are `N` network nodes, labelled `1` to `N`.

Given `times`, a list of travel times as **directed** edges `times[i] = (u, v, w)`, where `u` is the source node, `v` is the target node, and `w` is the time it takes for a signal to travel from source to target.

Now, we send a signal from a certain node `K`. How long will it take for all nodes to receive the signal? If it is impossible, return `-1`.

Example 1:




```
Input: times = [[2,1,1],[2,3,1],[3,4,1]], N = 4, K = 2

Output: 2
```

Note:

1. `N` will be in the range `[1, 100]`.
2. `K` will be in the range `[1, N]`.
3. The length of `times` will be in the range `[1, 6000]`.
4. All edges `times[i] = (u, v, w)` will have `1 <= u, v <= N` and `0 <= w <= 100`.