Charged Courier

time limit per test: 1 second (3 seconds for Python)
memory limit per test: 256 megabytes
input: standard input
output: standard output
points: 100 · problem code: chargedcourier

A courier must travel through a network of cities from city 1 to city N. Each road can only be used in its listed direction, gives a certain delivery reward, and consumes some amount of battery.

The courier starts with at most B battery units and cannot spend more than B battery units over the whole trip. Determine the maximum total reward the courier can collect while reaching city N. If it is impossible to reach city N, output `-1`.

Input

The first line contains three integers N, M, and B: the number of cities, the number of roads, and the maximum battery that may be spent.

Each of the next M lines contains four integers u_i, v_i, r_i, and c_i, describing a directed road from city u_i to city v_i with reward r_i and battery cost c_i.

Output

Output one integer: the maximum reward possible while reaching city N using at most B battery units, or `-1` if city N cannot be reached.

Constraints

- $2 \le N \le 500$
- $0 \le M \le 5000$
- $0 \le B \le 3000$
- $1 \le u_i, v_i \le N$
- $u_i \ne v_i$
- $0 \le r_i \le 10^9$
- $1 \le c_i \le 3020$

Example 1

Input

```
4 5 7
1 2 10 3
2 4 20 4
1 3 25 5
3 4 10 3
2 3 15 2
```

Output

```
30
```

Explanation

The courier can travel from city 1 to city 2 to city 4, spending $3 + 4 = 7$ battery and collecting $10 + 20 = 30$ reward. The route through city 3 from city 1 would collect more reward, but it spends too much battery.

Example 2

Input

```
3 2 4
1 2 100 5
2 3 100 1
```

Output

```
-1
```