D. Ilya and Roads

Everything is great about Ilya's city, except the roads. The thing is, the only ZooVille road is represented as n holes in a row. We will consider the holes numbered from 1 to n, from left to right.

Ilya is really keep on helping his city. So, he wants to fix at least k holes (perharps he can fix more) on a single ZooVille road.

The city has m building companies, the i-th company needs c_i money units to fix a road segment containing holes with numbers of at least l_i and at most r_i. The companies in ZooVille are very greedy, so, if they fix a segment containing some already fixed holes, they do not decrease the price for fixing the segment.

Determine the minimum money Ilya will need to fix at least k holes.

Input

The first line contains three integers n, m, k ($1 \le n \le 300$, $1 \le m \le 10^5$, $1 \le k \le n$). The next m lines contain the companies' description. The i-th line contains three integers l_i, r_i, c_i ($1 \le l_i \le r_i \le n$, $1 \le c_i \le 10^9$).

Output

Print a single integer — the minimum money Ilya needs to fix at least k holes.

If it is impossible to fix at least k holes, print -1.

Please, do not use the `%lld` specifier to read or write 64-bit integers in C++. It is preferred to use the `cin`, `cout` streams or the `%I64d` specifier.

Examples

input
```
10 4 6
7 9 11
6 9 13
7 7 7
3 5 6
```

output
```
17
```

input
```
10 7 1
3 4 15
8 9 8
5 6 8
9 10 6
1 4 2
1 4 10
8 10 13
```

output
```
2
```

input
```
10 1 9
5 10 14
```

output
- 1

output
- 1