Maximum Flow in a Network

Description

Given a network graph, as well as its source and sink nodes, find the maximum flow in the network.

Input Format

The first line contains four positive integers n, m, s, t, representing the number of vertices, the number of directed edges, the source node number, and the target node number, respectively.

Next m lines each contain three positive integers $u_i*, *v_i, w_i$, representing the i-th directed edge that goes from u_i to v_i with edge weight w_i.

Output Format

One line, containing a positive integer, which represents the maximum flow of the network.

Sample

Sample Input

```
4 5 4 3
4 2 30
4 3 20
2 3 20
2 1 30
1 3 30
```

Sample Output

```
50
```

For 100% testcases: $1 \leq n \leq 200, 1 \leq m \leq 5000, 0 \leq w_i \leq 10^9$.