

**acm** International Collegiate
Programming Contest**2015****IBM**event
sponsor**SOUTH PACIFIC REGION**

F: Protest

Time Limit: 3 second(s)

A group of militant IT students want to march from the Computer Science building to the university Vice Chancellor's office to protest the removal of BASIC as the first-year programming language. The students plan to march arm-in-arm in rows to present a unified front. Once a row locks arms, they will stay that way until their demands are met.

The protest planners have mapped out all the walkways on campus to figure out how many students wide each walkway is. All walkways on the campus allow foot traffic in both directions. The planners can see from the campus map that there is a path from the Vice Chancellor's office from the Computer Science building but they need your help with their plans.

As the protesters' leading algorithmist they need you to find a path from the Computer Science building to the Vice Chancellor's office that maximises the number of students who can walk arm-in-arm for the duration of the walk.

Input

The input contains a single test case.

The first line contains two integers p ($2 \leq p \leq 1000$) and w ($1 \leq w \leq 50\,000$) specifying the number of unique walkway end points and the number of walkways on the university campus.

The second line contains two integers c and v ($0 \leq c, v < p; c \neq v$) being the walkway end points for the computer science building and the vice chancellor's office respectively.

The following w lines contain three integers w_{start} , w_{end} ($0 \leq w_{start}, w_{end} < p; w_{start} \neq w_{end}$) and w_{width} ($1 \leq w_{width} \leq 1000$) being the start and end points for a walkway and the number of students that will be able to walk arm-in-arm along that particular walkway.

Output

On a single line output the maximum number of students who can walk arm-in-arm from the Computer Science building to the Vice Chancellor's office.

graph search.