Rollicking Riptide Rapids

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C++ — 2 SEC — 512 MB

Wally's Wonderfully Wacky Waterworld is the wettest way to while away the hours in the western world! With spring around the corner, the water wonderland is opening its pools to a new raft of swimmers, floaters, and paddlers.

This year, Wally's Waterworld is unveiling a brand new attraction: their Rollicking Riptide Rapids. This awesome aquatic amusement is assembled from **n** bathing pools (numbered from 1 to **n**) connected by a set of one-way rivers. The rapids are explored from an entry pool (numbered 1) and escaped from an exit pool (numbered **n**). It is possible to reach any bathing pool from the entry pool via a sequence of rivers. It is also possible to reach the exit pool from any bathing pool.

Each bathing pool is large enough to accommodate any number of visitors. However, due to their tantalisingly twisting temperaments, each river can only handle a certain number of visitors per hour.

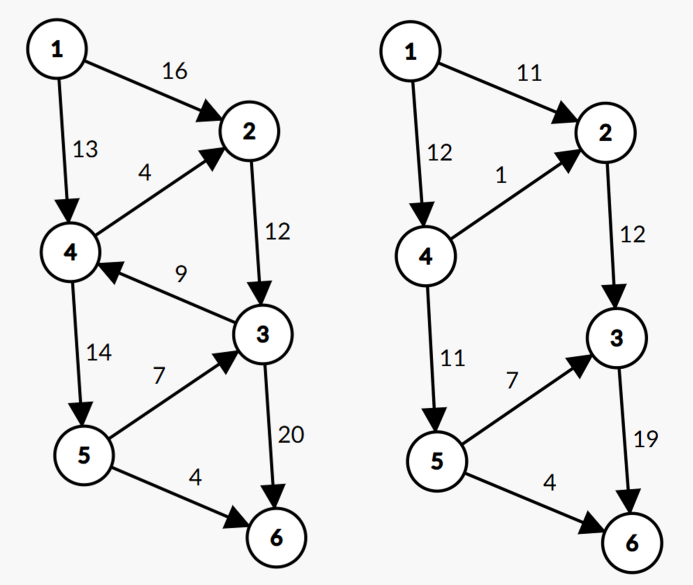
For health and safety reasons, Wally wants to know the maximum number of people per hour who can travel through the rapids from the entry pool to the exit pool.

INPUT You will be given an integer **n**, specifying the number of bathing pools. This will be followed by lines each containing three integers **a**, **b**, and **c**, denoting a one-way river from pool **a** to pool **b** with a maximum capacity of **c** visitors per hour. The input will be terminated by the line `-1 -1 -1`.

$3 \leq \mathbf{n} \leq 2{,}000$
$1 \leq \mathbf{c} \leq 2^{16}$

OUTPUT Output a single integer, **v**, giving the maximum number of visitors per hour who can travel from the entry pool to the exit pool.

SAMPLE For example, consider the first sample input. This layout for the Rollicking Riptide Rapids is shown below on the left. The maximum number of visitors per hour who can travel through the rapids is 23. This is shown below on the right.



INPUT	OUTPUT
6 1 2 16 2 3 12 3 6 20 1 4 13 4 5 14 5 3 7 5 6 4 4 2 4 3 4 9 -1 -1 -1	23
7 1 2 5 2 3 3 2 6 3 3 6 1 6 7 4 1 4 8 4 5 1 5 7 2 5 6 2 4 6 7 -1 -1 -1	5