Problem D. Card collection

Input file: standard input
Output file: standard output
Time limit: 1s

In an online game, a player can collect different types of power cards. Each power card can enable a player to have a unique game magic. There are m power cards available in the game as $(P_1, \cdots, P_m)$. A power card can be acquired by game points or through trading with others. In order to support the trading easier, a platform has been built. The platform charges a fixed amount $C_{i,j}$ game points for trading respective power cards, P_i and P_j. Note. Trading P_i to P_j or P_j to P_i would be of the same charge.

Write a program to calculate the minimal number of game points with a given original power card (P_o) to a target one (P_t). The output of your program should be the minimal game point value.

Input

The test data may contain many test cases. Each test case contains three data sections. The first section is an integer to indicate the number of power card types, denoted by m $(1 < m \leq 50)$. The second section contains two integers representing the type o $(0 < o \leq m)$ of the original power card P_o, and the type t $(0 < t \leq m)$ of the target power card. Also, o cannot be the same as t. The third section has a set of triplets and each triplet contains two cards types i, j and the charge amount $c_{i,j}$ $(0 < c_{i,j} \leq 20)$ between 2 types of power cards (P_i, P_j). The end part of section 3 contains a single 0.

Output

The output for each test case is the minimal number of game points needed for the trading of the original power card P_o to the target power card P_t.

Example

standard input	standard output
5 2 4 1 2 1 2 3 4 5 4 2 3 4 1 2 5 2 0 7 6 7 1 2 4 1 3 2 1 6 1 2 7 1 3 4 2 4 7 1 4 5 1 5 6 2 0	4 4