1049 – One Way Roads

Nowadays the one-way traffic is introduced all over the world in order to improve driving safety and reduce traffic jams. The government of Dhaka Division decided to keep up with new trends. Formerly all **n** cities of Dhaka were connected by **n** two-way roads in the ring, i.e. each city was connected directly to exactly two other cities, and from each city it was possible to get to any other city. Government of Dhaka introduced one-way traffic on all **n** roads, but it soon became clear that it's impossible to get from some of the cities to some others. Now for each road is known in which direction the traffic is directed at it, and the cost of redirecting the traffic. What is the smallest amount of money the government should spend on the redirecting of roads so that from every city you can get to any other?

Input

Input starts with an integer **T (≤ 200)**, denoting the number of test cases.

Each case starts with a blank line and an integer **n (3 ≤ n ≤ 100)** denoting the number of cities (and roads). Next **n** lines contain description of roads. Each road is described by three integers $\mathbf{a_i}$, $\mathbf{b_i}$, $\mathbf{c_i}$ **($1 \le a_i, b_i \le n, a_i \ne b_i, 1 \le c_i \le 100$)** - road is directed from city $\mathbf{a_i}$ to city $\mathbf{b_i}$, redirecting the traffic costs $\mathbf{c_i}$.

Output

For each case of input you have to print the case number and the smallest amount of money the government should spend on the redirecting of roads so that from every city you can get to any other.

Sample Input	Output for Sample Input
4 3 1 3 1 1 2 1 3 2 1 3 1 3 1 1 2 5 3 2 1 6 1 5 4 5 3 8 2 4 15 1 6 16 2 3 23 4 6 42 4 1 2 9 2 3 8 3 4 7 4 1 5	Case 1: 1 Case 2: 2 Case 3: 39 Case 4: 0