Problem J. Graph and Cycles

Input file:	`standard input`
Output file:	`standard output`
Time limit:	2 seconds
Memory limit:	256 megabytes

There is an undirected weighted complete graph of n vertices where n is odd.

Let's define a *cycle-array* of size k as an array of edges $[e_1, e_2, \ldots, e_k]$ that has the following properties:

- k is greater than 1.
- For any i from 1 to k, an edge e_i has exactly one common vertex with edge e_{i-1} and exactly one common vertex with edge e_{i+1} and these vertices are distinct (consider $e_0 = e_k$, $e_{k+1} = e_1$).

It is obvious that edges in a cycle-array form a cycle.

Let's define $f(e_1, e_2)$ as a function that takes edges e_1 and e_2 as parameters and returns the maximum between the weights of e_1 and e_2.

Let's say that we have a cycle-array $C = [e_1, e_2, \ldots, e_k]$. Let's define the *price of a cycle-array* as the sum of $f(e_i, e_{i+1})$ for all i from 1 to k (consider $e_{k+1} = e_1$).

Let's define a *cycle-split* of a graph as a set of non-intersecting cycle-arrays, such that the union of them contains all of the edges of the graph. Let's define the *price of a cycle-split* as the sum of prices of the arrays that belong to it.

There might be many possible cycle-splits of a graph. Given a graph, your task is to find the cycle-split with the minimum price and print the price of it.

Input

The first line contains one integer n ($3 \le n \le 999$, n is odd) — the number of nodes in the graph.

Each of the following $\frac{n \cdot (n-1)}{2}$ lines contain three space-separated integers u, v and w ($1 \le u, v \le n, u \ne v, 1 \le w \le 10^9$), meaning that there is an edge between the nodes u and v that has weight w.

Output

Print one integer — the minimum possible price of a cycle-split of the graph.

Examples

standard input	standard output
3 1 2 1 2 3 1 3 1 1	3
5 4 5 4 1 3 4 1 2 4 3 2 3 3 5 2 1 4 3 4 2 2 1 5 4 5 2 4 3 4 2	35

Note

Let's enumerate each edge in the same way as they appear in the input. I will use e_i to represent the edge that appears i-th in the input.

The only possible cycle-split in the first sample is $S = \{[e_1, e_2, e_3]\}$. $f(e_1, e_2)+f(e_2, e_3)+f(e_3, e_1) = 1+1+1 = 3$.

The optimal cycle-split in the second sample is $S = \{[e_3, e_8, e_9], [e_2, e_4, e_7, e_{10}, e_5, e_1, e_6]\}$. The price of $[e_3, e_8, e_9]$ is equal to 12, the price of $[e_2, e_4, e_7, e_{10}, e_5, e_1, e_6]$ is equal to 23, thus the price of the split is equal to 35.