

# Minimal Spanning Tree

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Problem Code	hw07a_mst
Running Time Limit	1 sec
Memory Limit	16 mb

## Objective

- Be able to compute a minimal spanning tree of a graph.

## Introduction

A minimal spanning tree of an undirected weighted graph is a subgraph that contains all vertices of the original graph and is a tree such that the sum of weight is minimal. In this problem, you will have to compute a minimal spanning tree.

## Task

Your task is to compute a summation of weight of a minimal spanning tree of a given graph.

## Input

The first line of input contain  $N$ , the number of vertices ( $1 \leq N \leq 500$ ). The vertices are numbered from 0 to  $N - 1$ . This is followed by  $N$  more lines. The  $(i + 1)^{th}$  line describes the edges going out of vertex  $i$ . The first number  $M_i$  ( $0 \leq M_i < N$ ) in the line gives the number of edges from vertex  $i$ . There will be  $M_i$  pairs of numbers in the line. Each pair  $d_{ij} w_{ij}$  describes each edge by giving the destination vertex and the associated weight. It is guaranteed that  $0 \leq d_{ij} < N$  and  $w_{ij}$  can be stored in `int` variable.

The generalized format of the input can be expressed as follow.

```
 $N$   
 $M_0 d_{00} w_{00} d_{01} w_{01} \dots d_{0M_0-1} w_{0M_0-1}$   
 $M_1 d_{10} w_{10} d_{11} w_{11} \dots d_{1M_1-1} w_{1M_1-1}$   
...  
 $M_{N-1} d_{(N-1)0} w_{(N-1)0} d_{(N-1)1} w_{(N-1)1} \dots d_{(N-1)M_{N-1}-1} w_{(N-1)M_{N-1}-1}$ 
```

## Output

The output is a single line containing the sum of weight of the minimal spanning tree.

## Example

### Ex1

Input	Output
6 2 1 100 4 110 4 0 100 2 50 3 40 5 50 3 1 50 3 60 4 60 3 1 40 2 60 5 55 3 0 110 2 60 5 45 3 1 50 3 55 4 45	285