Data Structure Assignment 5 – Minimum Spanning Tree

Given some fixed points, please implement the Kruskal's algorithm to calculate the shortest distance that passes all points.

- Input Format:
  - The first line represents the total number of points and edges. Note that the maximum number of points is 20.
  - The second line indicates the relationships between these points. For example, A B 10 means that the distance between A and B is 10.
  - Input.txt ends with a new line "0"
- Output Format:
  - Output the shortest distance that passes all points.

Input.txt	Output.txt
3 3 A B 10 A C 40 B C 20 9 12 A B 10 A I 25 B C 8 B H 40 B I 5 C D 15 C G 55 D E 42 E F 50 E G 37 G H 35 H I 30 0	30 190

Note:

1. You can use C or C++ as your programming language.
2. Your program must include some comments to help others understand your program.
3. Please make sure your program can read the input file, and write the result to the output file automatically.
4. TA will use the version of the compiler "G++ follow the C++11 ISO C++ language standard [-std=c++11]" and G++ v7.1.0 on Windows system. It is recommended to build your program on the same environment.

Pack up the files below, and name it as "**studentID_studentName.rar**"

1. One source code file (filename: StudentID.c,)
2. One report (filename: StudentID.pdf)
3. One output file (filename: Output.txt)

The report must include the programming language, programming environment(i.e. IDE), the version of the complier and the description of the program. Besides, you can add anything you want to share, such as the problems you encountered.

Deadline: Jan. 2 12:00 p.m.

Warning: You are encouraged to discuss homework assignments with each other. However, you are individually responsible for the homework assignments. Do not copy his/her assignment, or both of you will not get any point.