Lab5 5 Kruskal's Algorithm

Description

Write a program that reads input files, finds minimum spanning trees using Kruskal's Algorithm, and prints results to output files.

Submit your program and input and output files to Assignments/Lab5 folder.

Input and Output Files

All input files are the same as in the Exercise 5. The program is supposed to create one text output file for each text input file, two output files totally. There are following input and output files

Input text File	**in2_edges.txt**	**in3_edges.txt**
Output text File	**out2_edges.txt**	**out3_edges.txt**

There are two input files that contain edges and their weights. Each line in the input files specifies an edge as 3 integers separated by whitespaces – the first vertex number, the second vertex number, and the weight.

For each input text file, the program is supposed to find some matching minimum spanning tree and produce one output text file containing all lines from the input file, a header, the tree edges, and a summary line.

As the input files are the same as in the exercise, the output files shall be also essentially the same. See **in23_graph.pdf** file for the incomplete graph drawing (its edges do not have weights). The minimum spanning tree that your program is supposed to find is in the **out2_drawing.pdf** and **out3_drawing.pdf** files that you produced in the exercise.

See the following files for the input and output examples (the same as in Exercise 5). The output files format shall be as in **outExample_edges.txt** example.

Input pdf File	**inExample_graph.pdf**
Input text File	**inExample_edges.txt**
Output pdf File	**outExample_drawing.pdf**
Output text File	**outExample_edges.txt**

Program Steps

For each input file, do the following

1. Read the input file and write its lines to the output file.
2. Use Kruskal's Algorithm to find some minimum spanning tree.
3. Write a header (see outExample_edges.txt) to the output file.
4. Write edges of the found tree to the output file.
5. At the output file end, add a line describing the found tree total weight.

