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LAB-07

task-1

In this task, I take a input file and by reading this we get n and m followed by m pair of integer representing friendship between people. It then employs a union-find algorithm to determine the size of friendship groups and writes the sizes into output file.

task-2

In this task I take a input file and read line and get 'n' and 'm' integers followed by m lines representing edges and weights between vertices. Then by implementing kruskal algorithm I find the minimum Spanning tree (MST) of the graph and calculates its total weight. finally It writes in the output file the total weight of MST in the output file.

Task-3

In this task the code reads n integers from input file which represents the number of steps in a dynamic Programming Problem. It calculates the number of ways to climb 'n' steps where each step can be taken either 1 or 2 steps at a time, using dynamic Programming. Finally it writes the result.

Task-4

In this task The code reads the input where the 1st line contains integer 'n' and 'm' representing the number of different coin types and the target amount respectively, and the second line contains denominations of the coins. It implements dynamic Programming to find the minimum number of coins needed to make up the target amount m.