Task 1

This algorithm is for finding the size of friend circles within a social network. The input is made up of a total number of people, classified 'n', and queries that signify friendship between specific individuals, with the end result being the size of each friend circle. The solution use union-find data structure to efficiently track the size of each friend circles while processing their pairing.

Task 2

This algorithm is used to find the minimum maintenance cost for a road network, represented by edges with each carrying with a maintenance cost. The goal is to figure out the minimum cost required to travel through the network using Kruskal's Algorithm to find the MST of the network, returning the the minimum total maintenance cost otherwise.

Task 3

This algorithm is to calculate the number of staircases with 'N' steps. It utilizes a memoization array to store previously computed results. It also recursively calculates the number of ways to climb n steps, taking either one step or two steps up at a time, into account in an efficient manner.

Task 4

This task algo