

Центроидна декомпозиция

Problem 1: Given a sequence of N numbers. Find the count of the subsequences of consecutive elements, whose sum does not exceed S .

Problem 2: Given a weighted tree with N vertices. Find the count of the simple paths in the tree, such that the sum of the weights of the edges comprising them does not exceed S .

Problem 3: IOI 2011 Race

Problem 4: Given a tree with N vertices in which there is a hidden node. Find it with minimal number of queries of the following type: ask for a vertex V and receive as an answer the first node on the path from V to the hidden vertex.

Problem 5: Given a tree with N vertices. We want to assign a letter from 'A' to 'Z' in such a way that on the path between every two vertices with equal letter there is at least one vertex with a smaller letter.

Problem 6: Given a tree with N vertices. Process Q queries of the following two types: 1) paint vertex V in red; 2) find the closest red vertex to V .

Problem 7: CF -> 715C

More problems: <https://usaco.guide/plat/centroid?lang=cpp>