

answer: We consider this question as a graph.

We add a vertex as the source of water.

then we have $N+1$ vertices

and $N^2 + N$ edges.

N^2 edges stand for ^{the} method that drink water from other farmland.

the weight of this edge between i and j is P_{ij}

N edges stand for ^{the} method that build a reservoir of land.

the weight of a edge between i block and water source is W_i

thus calculating minimal required price is equivalent to

find a minimum spanning tree for the graph above.

So, I use kruskal algorithm. the sum of weight for this minimum spanning tree is the minimal required price.

time complexity we have $N^2 + N$ edges and $N+1$ vertices.

time complexity for kruskal algorithm is $O(E \log V)$

thus time complexity: $O((N^2 + N) \log N) = O(N^2 \log N)$