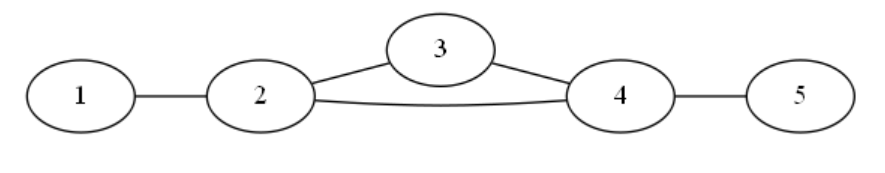
ABC 160D Line++

Given an undirected graph with vertices and edges of the following form: edges that connect vertices and , and an extra edge connecting vertices and (). Find the number of pairs such that and the shortest distance from to is , for all . ()

For example, if , the output should be .

shortest distance from to is :

shortest distance from to is :

shortest distance from to is :

shortest distance from to is :

Try to think of a solution before reading on!

Since is small, an solution should pass. 🡪 We can just iterate for all pairs and compute the shortest distance for each of them!

For each pair , you have 2 choices: use edge, or don’t use it.

If you don’t use edge, distance

if you use edge, you need to go from to , then to , then to .

Therefore, distance

