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민두기

1-(a).

1-(b).

1-(c).

2.

There are two chain .

If choose edge, we cannot choose both and then

we cannot make perfect matching. Because has only one edge, , and

has only one edge . Similarly, if we choose edge, we cannot choose both and then we cannot make perfect matching. Because has only one edge, , and has only one edge .

Therefore, we should choose earlier than , and should

choose earlier than , then we can make perfect matching.

is number of random chain’s order – number of order or is first. is random edge order / two chain’s order.

Total **320** orders give us a perfect matching.

Simple test is that just check

1. is earlier than , if then, this order does not give perfect matching.
2. is earlier than , if then, this order does not give perfect matching.

If pass above two condition, then that order gives perfect matching.

3-(a).

All two query x can make edge always, because all A, B, C can make edge with x. Also two query y can make edge always, because two x make just two edge. That means at least two B or C remain, then they can make edge with two y.

Therefore, the greedy algorithm will assign at least 4 of these 6 queries.

3-(b).

Proper query sequence is xxzzzz. Optimum off-line algorithm assigns 4-queries on this sequence. If greedy algorithm assigns C-x and C-x, then

only 2 queries assigned, half of the optimum value.