**Solution of Honey Yummy**

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When there are three units around another unit are improved, the perimeter in number of edges of improved units will not be change when another unit improve. Since the number of unit on a edge of the hive is N, there the perimeter is (N+1)\*6 in number of edges of the whole hive (all units), also that each single unit that not adjacent to others has a perimeter of 6 in number of edges, it has to put N+1 bees at least initially.

**Solution of A+B problem**

Let and , where

When , the equation holds. Since when , always holds; therefore, the problem has became for how many positive integer pairs that are relatively prime to each other, is a factor of .

Let , where are distinct prime factors of . It can be seem that for each prime factor , since and are relatively prime to each other, there must be several , positively zero, be either factors of or . Since has at most number of , there can have number of factor from to , can have either number of factor from 1 to , or both and have no factor of In total, there are situations for each .

Thus we get the answer to problem,

Proof of when , always holds:

Let , where is a prime number

holds

1 only when is a multiple of or . We know that is a multiple of and ; therefore has also be a multiple of or . And since, and , it conflicts with the previous condition. Thus, when , always holds.