Proof: All horses have the same color xd

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Theorem 1. *All horses have the same color.*

Proof. Since the number of horses is a natural number, let $n \in \mathbb{N}$ be the number of horses. We proceed proving the above claim using induction on n. We need to prove 2 claims.

1. If $n = 1$, then all horses have the same color.

   Assume $n = 1$. So we have 1 horse. This means the group of 1 horse have the same color, which is true by default.

2. If a group of n_0 horses have the same color, then a group of $n_0 + 1$ horses have the same color.

   Assume n_0 horses have the same color. We number these horses accordingly.

   $$1, 2, 3, ..., n_0 \text{ have the same color}$$

   By our inductive hypothesis, n_0 horses have the same color. So then for

   $$2, 3, 4, ..., n_0 + 1$$

   these horses have the same color.
   So we can conclude the horses from

   $$1, 2, 3, 4, ..., n_0, n_0 + 1$$

   have the same color.

Thus, all horses have the same color by induction on n. □