Let us define a sequence by:

- $F_1 = 1$,
- $F_2 = 1$,
- $\forall n > 2, F_n = F_{n-1} + F_{n-2}$.

Some terms in this sequence are

$$1, 1, 2, 3, 5, 8, 13, 21, 34, 55, 89, 144, \ldots$$

Theorem

$$\forall n \in \mathbb{N}, \quad F_n < 2^n.$$