This is a first example

j-mayoral

February 1, 2026

Definition 1 (Sum until)**.** For every natural number $n \in \mathbb{N}$, we define

$$\text{sum_until}(n) = \sum_{k=0}^{n} k.$$

Theorem 2 (Sum of the first n natural numbers)**.** *For every* $n \in \mathbb{N}$,

$$\text{sum_until}(n) = \frac{n(n+1)}{2}.$$

Proof. This follows from a straightforward induction on n. □