fshift_increasing[4,23]

$\forall n{:}\mathbb{N},\ x{:}\mathbb{Z},\ f{:}(\mathbb{N}_{<n} \to \mathbb{Z}).\ \text{increasing}(f;n) \Rightarrow 0{<}n \Rightarrow x{<}f(0) \Rightarrow \text{increasing}(\text{fshift}(f;x);n{+}1)$