```
increasing_lower_bound  THM

⊢  ∀k:ℕ, f:(ℕk→ℤ), x:ℕk. increasing(f;k) ⇒ f(0)+x≤f(x)  by Auto
|
1. k : ℕ
2. f : ℕk→ℤ
3. x : ℕk
4. increasing(f;k)
⊢  f(0)+x≤f(x)  by  D (-2) THENA Auto THEN IntInd (-3) THEN Auto'
|
1. k : ℕ
2. f : ℕk→ℤ
3. increasing(f;k)
4. x : ℤ
5. 0<x
6. 0 ≤ x-1 < k ⇒ f(0)+x-1≤f(x-1)
7. 0≤x
8. x<k
⊢  f(0)+x≤f(x)  by D (-3) THENA Auto'
|
1. k : ℕ
2. f : ℕk→ℤ
3. increasing(f;k)
4. x : ℤ
5. 0<x
6. 0≤x
7. x<k
8. f(0)+x-1≤f(x-1)
⊢  f(0)+x≤f(x)
  by AllHyps (\i. Unfold `increasing` i THEN InstHyp [x-1
     ] i THEN Auto')
END
```