```
fib_wf  THM

⊢  ∀n:ℕ. fib(n) ∈ ℕ  by Analyze 0 THEN OnVar ‘n’ CompNatInd
|
1. n : ℕ
2. ∀n1:ℕ. n1<n ⇒ fib(n1) ∈ ℕ
⊢  fib(n) ∈ ℕ  by RecCaseSplit ‘fib‘
|
|\
| .....truecase .....
| 3. n = 0 ∨ n = 1
| ⊢  1 ∈ ℕ  by Auto
|
.\
. .....falsecase .....
. 3. ¬n = 0 & ¬n = 1
. ⊢  fib(n-1)+fib(n-2) ∈ ℕ
.   by BackThru Thm* ∀i,j:ℕ. i+j ∈ ℕ    {add_nat_wf} THEN BackThru 2
END
```