```
exponentiation_wf_nat  THM

⊢  ∀n,k:ℕ. (n^k) ∈ ℕ  by Analyze
|
1. n : ℕ
⊢  ∀k:ℕ. (n^k) ∈ ℕ  by CompNatInd Concl
|
2. k : ℕ
3. ∀k1:ℕ. k1<k ⇒ (n^k1) ∈ ℕ
⊢  (n^k) ∈ ℕ
| by Compute ⌈n^k⌉ *⇒ if k=₂0→ 1 else n•(n^(k-1)) fi
|    THEN
|    SplitOnConclITE
|
.....falsecase .....
4. ¬k = 0
⊢  n•(n^(k-1)) ∈ ℕ
| by BackThru: Thm*  ∀i,j:ℕ. i•j ∈ ℕ    {multiply_nat_wf}
|
|\
| .....wf .....
| ⊢  n ∈ ℕ  by Trivial
|
.\
. .....wf .....
. ⊢  (n^(k-1)) ∈ ℕ  by BackThru: Hyp:3
END
```