```
diagonalization  THM

⊢  ∀B:Type, R:(B→B→Prop), e:(B→B).
|  (∀b:B. ¬R(e(b),b))
|  ⇒
|  (∀A:Type, f:(A→A→B). ¬(∃a:A. R((Diag f wrt x. e(x))(a),f(a,a))))
| by Auto
|
1. B : Type
2. R : B→B→Prop
3. e : B→B
4. ∀b:B. ¬R(e(b),b)
5. A : Type
6. f : A→A→B
⊢  ¬(∃a:A. R((Diag f wrt x. e(x))(a),f(a,a)))
| by Analyze THEN Analyze-1
|
7. a : A
8. R((Diag f wrt x. e(x))(a),f(a,a))
⊢  False  by (-1) Def of Diag f wrt x. e(x) THEN Reduce Hyp:-1
|
8. R(e(f(a,a)),f(a,a))
⊢  False  by BackThru: Hyp:4 Using:[f(a,a)]
END
```