

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1

```

Lemma ex1: forall A:Prop,
~~~A -> ~A.
Proof.
intro h1.
intro h2.
intro h3.
apply h2.
intro h4.
apply h4.
assumption.
Qed.

```

```

1 goal
~~~~~A -> ~ A (1/1)
forall A : Prop, ~ ~ ~ A -> ~ A

```

Messages Errors Jobs

Ready, proving ex1
Line: 2 Char: 12 Offset: 38 0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1

```

Lemma ex1: forall A:Prop,
~~~A -> ~A.
Proof.
intro h1.
intro h2.
intro h3.
apply h2.
intro h4.
apply h4.
assumption.
Qed.

```

```

1 goal
h1 : Prop
~~~~~h1 -> ~ h1 (1/1)
~ ~ ~ h1 -> ~ h1

```

Messages Errors Jobs

Ready, proving ex1
Line: 4 Char: 10 Offset: 55 0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1

```

Lemma ex1: forall A:Prop,
~~~A -> ~A.
Proof.
intro h1.
intro h2.
intro h3.
apply h2.
intro h4.
apply h4.
assumption.
Qed.

```

```

1 goal
h1 : Prop
h2 : ~ ~ ~ h1
~ h1
(1/1)

```

Messages Errors Jobs

Ready, proving ex1
Line: 5 Char: 10 Offset: 65
0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1

```

Lemma ex1: forall A:Prop,
~~~A -> ~A.
Proof.
intro h1.
intro h2.
intro h3.
apply h2.
intro h4.
apply h4.
assumption.
Qed.

```

```

1 goal
h1 : Prop
h2 : ~ ~ ~ h1
h3 : h1
False
(1/1)

```

Messages Errors Jobs

Ready, proving ex1
Line: 6 Char: 10 Offset: 75
0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1

```

Lemma ex1: forall A:Prop,
~~~A -> ~A.
Proof.
intro h1.
intro h2.
intro h3.
apply h2.
intro h4.
apply h4.
assumption.
Qed.

```

```

1 goal
h1 : Prop
h2 : ~ ~ ~ h1
h3 : h1
_____ (1/1)
~ ~ h1

```

Messages Errors Jobs

Ready, proving ex1
Line: 7 Char: 10 Offset: 85
0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1

```

Lemma ex1: forall A:Prop,
~~~A -> ~A.
Proof.
intro h1.
intro h2.
intro h3.
apply h2.
intro h4.
apply h4.
assumption.
Qed.

```

```

1 goal
h1 : Prop
h2 : ~ ~ ~ h1
h3 : h1
h4 : ~ h1
_____ (1/1)
False

```

Messages Errors Jobs

Ready, proving ex1
Line: 8 Char: 10 Offset: 95
0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1

```

Lemma ex1: forall A:Prop,
  ~ ~ A -> ~ A.
Proof.
  intro h1.
  intro h2.
  intro h3.
  apply h2.
  intro h4.
  apply h4.
  assumption.
Qed.

```

1 goal  
h1 : Prop  
h2 : ~ ~ ~ h1  
h3 : h1  
h4 : ~ h1  


---

h1 (1/1)

Messages Errors Jobs

Ready, proving ex1

Line: 9 Char: 10 Offset: 105 0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1

```

Lemma ex1: forall A:Prop,
  ~ ~ A -> ~ A.
Proof.
  intro h1.
  intro h2.
  intro h3.
  apply h2.
  intro h4.
  apply h4.
  assumption.
Qed.

```

No more goals.

Messages Errors Jobs

Ready, proving ex1

Line: 10 Char: 12 Offset: 117 0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 **exe2**

```

Lemma ex2: forall A B:Prop,
A \ / B -> ~ (~ A /\ ~ B).
Proof.
intro h1.
intro h2.
intro h3.
intro h4.
destruct h4 as (h5, h6).
destruct h3 as [h7 | h8].
apply h5 in h7.
assumption.
apply h6 in h8.
assumption.
Qed.

```

```

1 goal
forall A B : Prop, A \ / B -> ~ (~ A /\ ~ B)

```

Messages Errors Jobs

Ready, proving ex2
Line: 2 Char: 26 Offset: 54 0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 **exe2**

```

Lemma ex2: forall A B:Prop,
A \ / B -> ~ (~ A /\ ~ B).
Proof.
intro h1.
intro h2.
intro h3.
intro h4.
destruct h4 as (h5, h6).
destruct h3 as [h7 | h8].
apply h5 in h7.
assumption.
apply h6 in h8.
assumption.
Qed.

```

```

1 goal
h1 : Prop
forall B : Prop, h1 \ / B -> ~ (~ h1 /\ ~ B)

```

Messages Errors Jobs

Ready, proving ex2
Line: 4 Char: 10 Offset: 71 0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 **exe2**

```

Lemma ex2: forall A B:Prop,
A /\ B -> ~ (~ A /\ ~ B).
Proof.
intro h1.
intro h2.
intro h3.
intro h4.
destruct h4 as (h5, h6).
destruct h3 as [h7 | h8].
apply h5 in h7.
assumption.
apply h6 in h8.
assumption.
Qed.

```

```

1 goal
h1, h2 : Prop
----- (1/1)
h1 /\ h2 -> ~ (~ h1 /\ ~ h2)

```

Messages Errors Jobs

Ready, proving ex2
Line: 5 Char: 10 Offset: 81 0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 **exe2**

```

Lemma ex2: forall A B:Prop,
A /\ B -> ~ (~ A /\ ~ B).
Proof.
intro h1.
intro h2.
intro h3.
intro h4.
destruct h4 as (h5, h6).
destruct h3 as [h7 | h8].
apply h5 in h7.
assumption.
apply h6 in h8.
assumption.
Qed.

```

```

1 goal
h1, h2 : Prop
h3 : h1 /\ h2
----- (1/1)
~ (~ h1 /\ ~ h2)

```

Messages Errors Jobs

Ready, proving ex2
Line: 6 Char: 10 Offset: 91 0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 **exe2**

```

Lemma ex2: forall A B:Prop,
A \ / B -> ~ (~ A /\ ~ B).
Proof.
intro h1.
intro h2.
intro h3.
intro h4.
destruct h4 as (h5, h6).
destruct h3 as [h7 | h8].
apply h5 in h7.
assumption.
apply h6 in h8.
assumption.
Qed.

```

```

1 goal
h1, h2 : Prop
h3 : h1 \ / h2
h4 : ~ h1 /\ ~ h2
_____ (1/1)
False

```

Messages Errors Jobs

Ready, proving ex2
Line: 7 Char: 10 Offset: 101
0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 **exe2**

```

Lemma ex2: forall A B:Prop,
A \ / B -> ~ (~ A /\ ~ B).
Proof.
intro h1.
intro h2.
intro h3.
intro h4.
destruct h4 as (h5, h6).
destruct h3 as [h7 | h8].
apply h5 in h7.
assumption.
apply h6 in h8.
assumption.
Qed.

```

```

1 goal
h1, h2 : Prop
h3 : h1 \ / h2
h5 : ~ h1
h6 : ~ h2
_____ (1/1)
False

```

Messages Errors Jobs

Ready, proving ex2
Line: 8 Char: 25 Offset: 126
0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 **exe2**

```

Lemma ex2: forall A B:Prop,
A /\ B -> ~ (~ A /\ ~ B).
Proof.
intro h1.
intro h2.
intro h3.
intro h4.
destruct h4 as (h5, h6).
destruct h3 as [h7 | h8].
apply h5 in h7.
assumption.
apply h6 in h8.
assumption.
Qed.

```

```

2 goals
h1, h2 : Prop
h7 : h1
h5 : ~ h1
h6 : ~ h2
_____ (1/2)
False
_____ (2/2)
False

```

Messages Errors Jobs

Ready, proving ex2
Line: 9 Char: 26 Offset: 152
0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 **exe2**

```

Lemma ex2: forall A B:Prop,
A /\ B -> ~ (~ A /\ ~ B).
Proof.
intro h1.
intro h2.
intro h3.
intro h4.
destruct h4 as (h5, h6).
destruct h3 as [h7 | h8].
apply h5 in h7.
assumption.
apply h6 in h8.
assumption.
Qed.

```

```

2 goals
h1, h2 : Prop
h7 : False
h5 : ~ h1
h6 : ~ h2
_____ (1/2)
False
_____ (2/2)
False

```

Messages Errors Jobs

Ready, proving ex2
Line: 10 Char: 16 Offset: 168
0 / 0



CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 **exe2**

```

Lemma ex2: forall A B:Prop,
A /\ B -> ~ (~ A /\ ~ B).
Proof.
intro h1.
intro h2.
intro h3.
intro h4.
destruct h4 as (h5, h6).
destruct h3 as [h7 | h8].
apply h5 in h7.
assumption.
apply h6 in h8.
assumption.
Qed.

```

```

1 goal
h1, h2 : Prop
h8 : h2
h5 : ~ h1
h6 : ~ h2
_____ (1/1)
False

```

Messages Errors Jobs

Ready, proving ex2
Line: 11 Char: 12 Offset: 180
0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 **exe2**

```

Lemma ex2: forall A B:Prop,
A /\ B -> ~ (~ A /\ ~ B).
Proof.
intro h1.
intro h2.
intro h3.
intro h4.
destruct h4 as (h5, h6).
destruct h3 as [h7 | h8].
apply h5 in h7.
assumption.
apply h6 in h8.
assumption.
Qed.

```

```

1 goal
h1, h2 : Prop
h8 : False
h5 : ~ h1
h6 : ~ h2
_____ (1/1)
False

```

Messages Errors Jobs

Ready, proving ex2
Line: 12 Char: 16 Offset: 196
0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 **exe2**

```

Lemma ex2: forall A B:Prop,
A /\ B -> ~ (~ A /\ ~ B).
Proof.
intro h1.
intro h2.
intro h3.
intro h4.
destruct h4 as (h5, h6).
destruct h3 as [h7 | h8].
apply h5 in h7.
assumption.
apply h6 in h8.
assumption.
Qed.

```

No more goals.

Messages Errors Jobs

Ready, proving ex2
Line: 13 Char: 12 Offset: 208 0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 exe2 **exe3**

```

Lemma ex3: forall T (P: T -> Prop),
(~ exists x, P x) -> forall x, ~ P x.
Proof.
intros.
intro h.
apply H.
exists x.
exact h.
Qed.

```

1 goal (1/1)  
forall (T : Type) (P : T -> Prop),  
~ (exists x : T, P x) -> forall x : T, ~ P x

Messages Errors Jobs

Ready, proving ex3
Line: 2 Char: 40 Offset: 75 0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 exe2 **exe3**

```

Lemma ex3: forall T (P: T -> Prop),
  (~ exists x, P x) -> forall x, ~ P x.
Proof.
intros.
intro h.
apply H.
exists x.
exact h.
Qed.

```

```

1 goal
T : Type
P : T -> Prop
H : ~ (exists x : T, P x)
x : T
_____ (1/1)
~ P x

```

Messages Errors Jobs

Ready, proving ex3
Line: 4 Char: 8 Offset: 90
0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 exe2 **exe3**

```

Lemma ex3: forall T (P: T -> Prop),
  (~ exists x, P x) -> forall x, ~ P x.
Proof.
intros.
intro h.
apply H.
exists x.
exact h.
Qed.

```

```

1 goal
T : Type
P : T -> Prop
H : ~ (exists x : T, P x)
x : T
h : P x
_____ (1/1)
False

```

Messages Errors Jobs

Ready, proving ex3
Line: 5 Char: 9 Offset: 99
0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 exe2 **exe3**

```

Lemma ex3: forall T (P: T -> Prop),
  (~ exists x, P x) -> forall x, ~ P x.
Proof.
intros.
intro h.
apply H.
exists x.
exact h.
Qed.

```

```

1 goal
T : Type
P : T -> Prop
H : ~ (exists x : T, P x)
x : T
h : P x
_____ (1/1)
exists x0 : T, P x0

```

Messages Errors Jobs

Ready, proving ex3
Line: 6 Char: 9 Offset: 108
0 / 0

CoqIDE

File Edit View Navigation Templates Queries Tools Compile Debug Windows Help

\*scratch\* exe1 exe2 **exe3**

```

Lemma ex3: forall T (P: T -> Prop),
  (~ exists x, P x) -> forall x, ~ P x.
Proof.
intros.
intro h.
apply H.
exists x.
exact h.
Qed.

```

```

1 goal
T : Type
P : T -> Prop
H : ~ (exists x : T, P x)
x : T
h : P x
_____ (1/1)
P x


```


Messages Errors Jobs


Ready, proving ex3
Line: 7 Char: 10 Offset: 118
0 / 0


CoqIDE


File Edit View Navigation Templates Queries Tools Compile Debug Windows Help



 \*scratch\*

 exe1

 exe2

 exe3

```
Lemma ex3: forall T (P: T -> Prop),
  (~ exists x, P x) -> forall x, ~ P x.
Proof.
intros.
intro h.
apply H.
exists x.
exact h.
Qed.
```

No more goals.

MessagesErrorsJobs

Ready, proving ex3

Line: 8 Char: 9 Offset: 127

0 / 0