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(*****
(* Preamble: miscellaneous notations *)
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Require Import Coq.Unicode.Utf8.
Require Import Coq.Classes.RelationClasses.
Require Import Coq.Classes.Morphisms.
Require Import Coq.Setoids.Setoid.
Require Setoid.
Require Import Coq.Strings.String.
Export Coq.Unicode.Utf8.
Export Coq.Classes.RelationClasses.
Export Coq.Classes.Morphisms.
Export Coq.Setoids.Setoid.

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Require Import Notations.
Export Notations.

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Set Printing Width 130.      (* Proof General seems to add an extra two columns of overhead *)
Generalizable All Variables.

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Reserved Notation "a ** b"           (at level 40).
Reserved Notation "a ;; b"           (at level 45).

Reserved Notation "a ~- b"           (at level 10).
Reserved Notation "pf1 == pf2"      (at level 80).
Reserved Notation "?? x"            (at level 1).
Reserved Notation "a , b"           (at level 50).
Reserved Notation "!! f"             (at level 3).
Reserved Notation "!' x"            (at level 2).
Reserved Notation "'! x"            (at level 2).
Reserved Notation "[# f #]"         (at level 2).
Reserved Notation "a ---> b"        (at level 11, right associativity).
Reserved Notation "a <- b"           (at level 100, only parsing).
Reserved Notation "G |= S"          (at level 75).
Reserved Notation "a :: b"           (at level 60, right associativity).
Reserved Notation "a ++ b"           (at level 60, right associativity).
Reserved Notation "<[ t @ ]>"        (at level 30).
Reserved Notation "<[ t @ n ]>"      (at level 30).
Reserved Notation "<[ e ]>"         (at level 30).
Reserved Notation "R ==> R' "       (at level 55, right associativity).

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Reserved Notation "a ==[ n ]==> b" (at level 20).  
 Reserved Notation "a ==[ h | c ]==> b" (at level 20).  
 Reserved Notation "H /.../ C" (at level 70).  
 Reserved Notation "a |== b @@ c" (at level 100).  
 Reserved Notation "a >>[ n ]<< b" (at level 100).  
  
 Reserved Notation "'<[ ' a ' | -' t ' ]>'" (at level 35).  
  
 Reserved Notation " $\Gamma$  '≠' x" (at level 10).  
 Reserved Notation " $\Gamma$  '≠' x" (at level 10).  
 Reserved Notation " $\Gamma$  '∃∃' x : a ~ b" (at level 10, x at level 99).  
 Reserved Notation " $\Gamma$  '∃' x : c" (at level 10, x at level 99).  
  
 Reserved Notation "a  $\Rightarrow$  b" (at level 55, right associativity).  
 Reserved Notation " $\varphi_1 \rightarrow \varphi_2$ " (at level 11, right associativity).  
 Reserved Notation "a '⊢<sub>T</sub>' b : c" (at level 20, b at level 99, c at level 80).  
 Reserved Notation "a '⊢<sub>C0</sub>' b : c ~ d" (at level 20, b at level 99).  
 Reserved Notation " $\Gamma$  '+' x : c" (at level 50, x at level 99).  
 Reserved Notation " $\Gamma$  '++' x : a ~ b" (at level 50, x at level 99).  
 Reserved Notation " $\varphi_1 \rightsquigarrow \varphi_2 \Rightarrow \varphi_3$ " (at level 11,  $\varphi_2$  at level 99, right associativity).

Notation "?? T" := (option T).

Reserved Notation " $\Gamma$  > past : present '⊢<sub>E</sub>' succedent"  
 (at level 52, past at level 99, present at level 50, succedent at level 50).

Reserved Notation "'η'".  
 Reserved Notation "'★'".

Close Scope nat\_scope. (\* so I can redefine '1' \*)

Delimit Scope arrow\_scope with arrow.  
 Delimit Scope biarrow\_scope with biarrow.  
 Delimit Scope garrow\_scope with garrow.