

Inference at \*  
of proof for Lemma p-conditional-to-p-first:

$\vdash \forall A, B:\text{Type}, f, g:(A \rightarrow (B + \text{Top})). [f?g] = \text{p-first}([f; g])$   
by ((Auto)  
CollapseTHEN ((Ext)  
CollapseTHEN (Auto·)).)

1:

1.  $A : \text{Type}$
  2.  $B : \text{Type}$
  3.  $f : A \rightarrow (B + \text{Top})$
  4.  $g : A \rightarrow (B + \text{Top})$
  5.  $x : A$
- $\vdash [f?g](x) = \text{p-first}([f; g])(x)$
- .