Inference at $*$ 1
of proof for Lemma ax_choice:

1. $A$ : Type
2. $B$ : Type
3. $Q$ : $A \to B \to \mathbb{P}$
4. $\forall x{:}A.\ \exists y{:}B.\ Q(x,y)$

$\vdash \exists f{:}A \to B.\ (\forall x{:}A.\ Q(x,f(x)))$
by ((Unfolds "all exists" 4)
CollapseTHEN (RenameVar 'g' 4))·

1:

4. $x{:}A \to y{:}B \times Q(x,y)$

$\vdash \exists f{:}A \to B.\ (\forall x{:}A.\ Q(x,f(x)))$

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http://www.nuprl.org/FDLcontent/p0_942988_/p121_84580_{ax_choice}1.html