Problem 10.2

Assume we have a language consisting of object constants *abby,bess,cody,dana* and no function constants.

Prove the goal from the given premises.

Proof Editor		
1.	likes(abby,bess)	Premise
2.	likes(cody,dana)	Premise
3.	AX:AY:(likes(X,Y) => likes(Y,X))	Premise
4.	AY:(likes(abby,Y) => likes(Y,abby))	Universal Elimination: 3
5.	likes(abby,bess) => likes(bess,abby)	Universal Elimination: 4
6.	likes(bess,abby)	Implication Elimination: 5, 1
7.	AY:(likes(cody,Y) => likes(Y,cody))	Universal Elimination: 3
8.	likes(cody,dana) => likes(dana,cody)	Universal Elimination: 7
9.	likes(dana,cody)	Implication Elimination: 8, 2
10.	EY:likes(Y,bess)	Existential Introduction: 1
11.	EY:likes(Y,dana)	Existential Introduction: 2
12.	EY:likes(Y,abby)	Existential Introduction: 6
13.	EY:likes(Y,cody)	Existential Introduction: 9
14.	AX:EY:likes(Y,X)	Domain Closure: 12, 10, 13, 11

Goal	AX:EY:likes(Y,X)	Complete	Submit

Assumption
Reiteration
Delete

Negation Introduction
Negation Elimination
And Introduction
And Elimination
Or Introduction
Or Elimination

Implication Introduction
Implication Elimination
Biconditional Introduction
Biconditional Elimination

Universal Introduction
Universal Elimination
Existential Introduction
Existential Elimination
Domain Closure

Reset
Show XML