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Week 4, Practice Problems

The practice problems in this set fall into four groups:

- Atomic statements
- Simple quantifier statements
- Multiple quantifier statements
- Connecting properties

Before you begin the homework, you might consider printing a copy either to work out by hand as you go along, or to work with on a tablet. A nice pdf of this page is at INSERT The solutions are here. INSERT

Atomic statements

In the following problems we use the following key:

a = "Angel"
b = "Briana"
c = "Cole"
d = "Daniela"
C = "is a congressman"
D = "is a Democrat"
J = "is a judge"
S = "is senator"
R = "is a Republican"

Remember that you have to "select all" and delete the entry in the first box, and then you have to press **return** at the end of the problem. If you need a refresher on how to type the propositional connectives on the keyboard, please consider reviewing Typing the connectives on the keyboard.

Angel is a congressman and Angel is a Democrat.

Angel is a senator or Briana is a senator.

If Daniela is a Democrat then Cole is a Republican.

If Briana is a judge then Briana is not a senator.

Angel is a judge or Briana is a judge or Cole is a judge

Simple quantifier statements

In the following problems, we use the key:

a = "Angel"
b = "Briana"
c = "Cole"
d = "Daniela"
C = is compassionate
B = is brave
H = is honest

Everyone is honest but not everyone is compassionate.

Someone is brave and someone is compassionate.

If Cole is brave and Cole is not honest, then someone is brave and not honest.

If everyone is not compassionate, then Briana is not compassionate and Cole is not compassionate.

Someone is brave and someone is honest, but everyone is not brave or not honest.

Multiple quantifier statements

In the following problems, we use the key:

a = "Angel"
b = "Briana"
c = "Cole"
d = "Daniela"
H = "is happy"
R = "is responsible"
O = "on time"

Someone is on time and someone is not on time.

If Angel is on time and Briana is not on time, then someone is on time and someone is not on time.

everyone is not on time and everyone is not happy

If everyone is not on time and everyone is not happy, then Cole is not on time and Cole is not happy.

If Cole is not on time and Cole is not happy, then not everyone is on time and not everyone is happy.

Connecting properties

H = "is high-quality"

M = "is a musical"

P = "is popular"

T = "is a thriller"

All musicals are high-quality.

Some musicals are thrillers.

If some thrillers are popular, then all thrillers are popular.

Some musicals are popular and some musicals are not popular.

Not all thrillers are popular but all high-quality thrillers are popular.

This is a practice problem set for this course. It is run on the Carnap software, which is an: