

Logic, First Course, Winter 2020. Week 4, Homework (due Monday February 3 by 11:59pm).

Week 4, Homework

The homework problems in this set fall into four groups:

- [Atomic statements](#)
- [Simple quantifier statements](#)
- [Multiple quantifier statements](#)
- [Connecting properties](#)

There are 20 problems total, each equally weighted. Submitted problems received on time receive 5 points each. Hence, there are 100 possible points. Late submissions receive 2 points each. The cutoff for submitting late homework is one week after the homework is due. At that point, the points recorded in [carnap.io](#) will be transferred to the ccle grading system and no further late work will be accepted.

Please remember to **press the "Submit" button** next to each problem after you are done. If you do not do this, you will **not** get credit for the problem. Once you have submitted your answer, your points are recorded. You can always check your points by going to the "user home" at the top right. You must be signed in in order to submit your answers.

If you want to do some problems at one point in time and other problems at another point in time, you can do that by just coming back to this assignment page. Once submitted, your points are permanently recorded. If you return to this page later or refresh this page, it won't display your previously recorded answers, but again your points are permanently recorded. If you have forgotten which ones you still need to do, you can check your points by going to the "user home" at the top right.

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](#)

Atomic statements

In the following problems we use the following key:

a = "Angel"

b = "Briana"

c = "Cole"

d = "Daniela"

P = "is president"

S = "is secretary"

T = "is treasurer"

V = "has veto power"

4.01

Submit

Angel is president and Angel has veto power

4.02

Submit

Brianna is secretary and Briana is not treasurer.

4.03

Submit

If Cole is president then Cole has veto power.

4.04

Submit

If Daniela is secretary then Daniela does not have veto power

4.05

Submit

If Cole is secretary or Daniela is secretary, then Angel is treasurer or Briana is treasurer.

Simple quantifier statements

In the following problems, we use the key:

a = "Angel"

b = "Briana"

c = "Cole"

d = "Daniela"

B = is busy

H = is happy

T = is tired

4.06

Submit

If Angel is happy and Angel is not tired, then someone is both happy and not tired.

4.07

Submit

Everyone is tired but not everyone is busy.

4.08

Submit

If everyone is busy and everyone is tired, then everyone is not happy.

4.09

Submit

If Daniela is not busy, then everyone is not busy.

4.10

Submit

Everyone is busy or tired, but not everyone is busy and not everyone is tired.

Multiple quantifier statements

In the following problems, we use the key:

a = "Angel"

b = "Briana"

c = "Cole"

d = "Daniela"

F = "is a French major"

G = "is a geography major"

H = "is a history major"

P = "is president"

S = "is secretary"

T = "is treasurer"

4.11

Submit

Someone is president and everyone is not a French major.

4.12

Submit

If Daniela is president and Daniela is a history major and Cole is a geography major, then someone is both president and a history major and someone is a geography major.

4.13

Submit

If Angel is a history major, then Angel is president and someone is secretary.

4.14

Submit

If Angel is a history major and Angel is a geography major, then someone is president and Angel is not president.

4.15

Submit

If everyone is a history major or French major, then Briana is not a history major only if Brianna is a French major.

Connecting properties

D = "is a drummer"

G = "is a guitar player"

K = "is kind"

S = "is stressed"

4.16

Submit

All drummers are kind.

4.17

Submit

All guitar-players are stressed.

4.18

Submit

If no drummers are stressed, then no guitar-players are kind.

4.19

Submit

If some guitar-players are not kind, then not all drummers are not stressed.

4.20

Submit

Some stressed guitar-players are kind.

This is a homework set for [this course](#). It is run on the Carnap software, which is an:

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