

PH126 Starting Logic + Week 1 + Handout
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#1 (an argument):

Either it went up the left fork or it went up the right fork

It didn't go up the left fork

Therefore it went up the right fork

#1.1 (premises of argument in #1):

Either it went up the left fork or it went up the right fork

It didn't go up the left fork

#1.2 (conclusion of argument at #1):

it went up the right fork

#2 (another argument):

Either it went up the left fork or it went up the right fork

The left fork is unsuitable for pigs

Therefore it went up the right fork

Logically valid argument

An argument is logically valid just if there's no possible situation in which the premises are true and the conclusion false

#3 (form of argument in #1):

This or that

Not this

Therefore that

#4 (a formal proof):

LeftFork(a) \vee RightFork(a)

\neg LeftFork(a)

RightFork(a)

#5 (two atomic sentences):

John is square

John is to the left of Ayesha

#5.1 (names from sentences in #5):

John, Ayesha

#5.2 (predicates from sentences in #5):

... is square

... is to the left of ...

#6 (a non-atomic sentence):

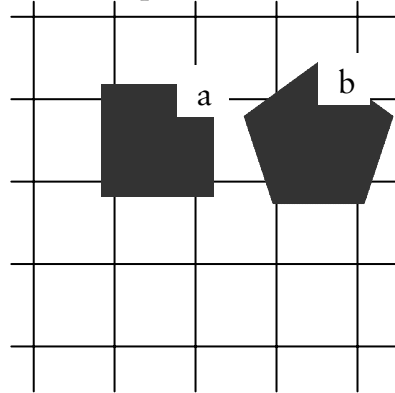
John is square or John is triangular

#7 (two sentences of FOL):

Square(a)

LeftOf(a,b)

#8 (example of a 'world' from *Tarski's World*):



In this world, Square(a) is true, LeftOf(a,b) is true, and Square(b) is false.

#9 (an argument in FOL):

Square(a) or Square(b)	//premise
not Square(a)	//premise
Square(b)	//conclusion

PH126: Exercises 01

For seminars in week 2

Reading

From Barwise & Etchemendy, *Language, Proof and Logic* (CSLI publications).

Lecture 1: introduction plus §§1.1–1.4

Lecture 2: §§2.1–3

Exercises

From Barwise & Etchemendy, *Language, Proof and Logic*. (those marked * are optional but highly recommended)

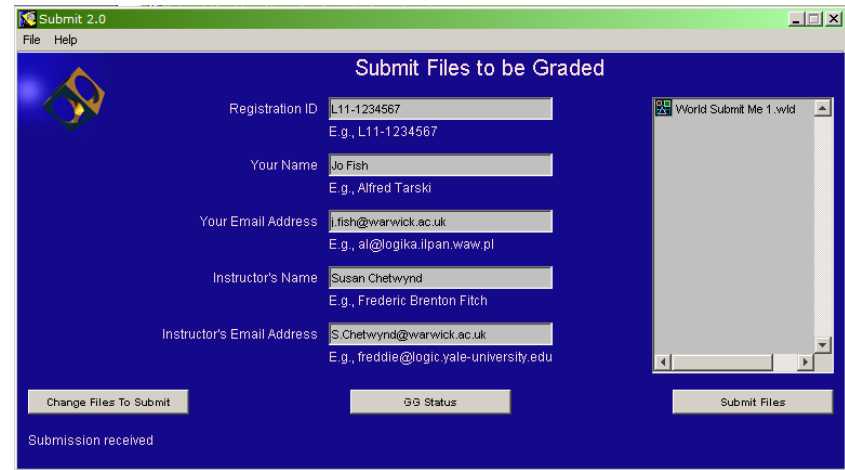
1.1–1.5 (*1.6,*1.7)

1.8–1.9 (*1.10)

2.1, 2.3, 2.4 (*2.2)

2.5, 2.6, 2.8–10 (*2.11–14)

NB: Some of these exercises are submitted using Grade Grinder. When using Grade Grinder, be sure to enter your seminar leader's name and email address in the 'instructor's name' and 'instructor's email address' sections. E.g.:



X.1

Explicate each of the following in one or two sentences. Use illustrations as necessary. For your own reference you may also like to note the pages in LPL where these concepts are introduced.

- argument [p. 41]
- premise
- conclusion
- logically valid argument
- logical consequence
- logically sound argument
- Fitch format
- FOL
- atomic sentence
- name
- object
- predicate
- property
- designation
- truth value