NAGOYA UNIVERSITY LIBRARY WORKSHOPS 2016

Academic Writing

and

Logical Thinking

May 18 ~ June 15, 2016

Instructor: Dr. Paul Lai

NAGOYA UNIVERSITY LIBRARY WORKSHOPS 2016

Review

All academic writers are required to know

The Writing Requirement

How words can be properly arranged to express the ideas.

The Thinking Requirement

How ideas can be properly arranged so that they can be properly expressed through words in a clear & convincing manner.

Being Clear

Having a
Truth Condition

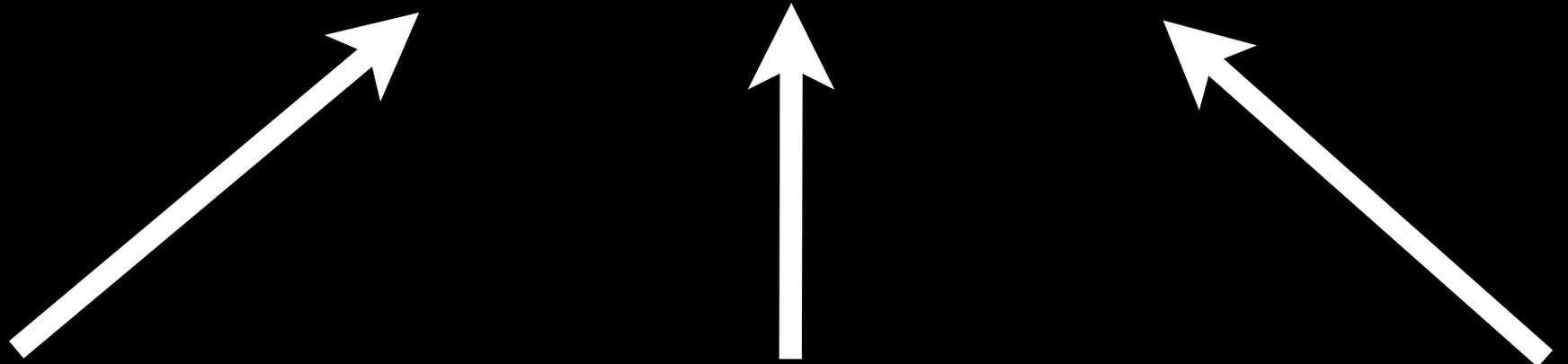
One Sentence

Thesis Statement

Minimum Lexical &
Structural Ambiguity

Non-Compound
Sentence Structure

Thesis Statement



Support 1

Support 2

Support 3

The Thesis Statement Recipe

Textbook for
the Nagoya University Library workshop series on
Academic Writing & Logical Thinking Skills

Written by

Paul W. L. Lai, Ph.D

Director, Nagoya UniversityWriting Center

(Mei-Writing)

(Homework)

(i) Think about a paper that you are planning to write.

(ii) Develop a thesis statement for the paper.

(iii) Presenting your thesis statement on June 15.

Try to make the following reason convincing:

Peter cannot submit the assignment on Monday because his computer broke down on Saturday.

How to use logic practically

学術論文の基本的な目的は、結論へと至る論理的ステップを提示することによって、
論文の主張する結論を受け入れるよう読者を説得することである。

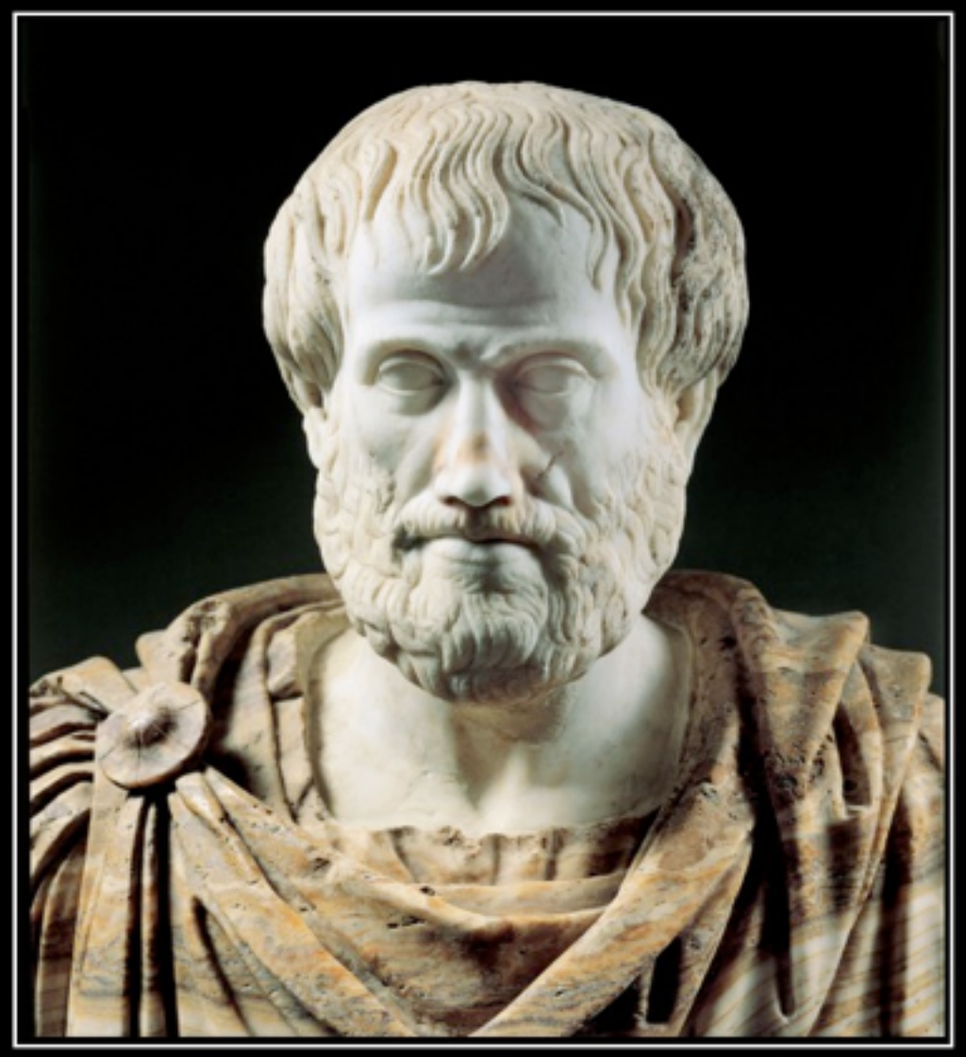
What is logic?

WRITING
教養教育院

学術論文の基本的な目的は、結論へと至る論理的ステップを提示することによって、
論文の主張する結論を受け入れるよう読者を説得することである。

An Instrument for Acquiring Knowledge

WRITING
教養教育院



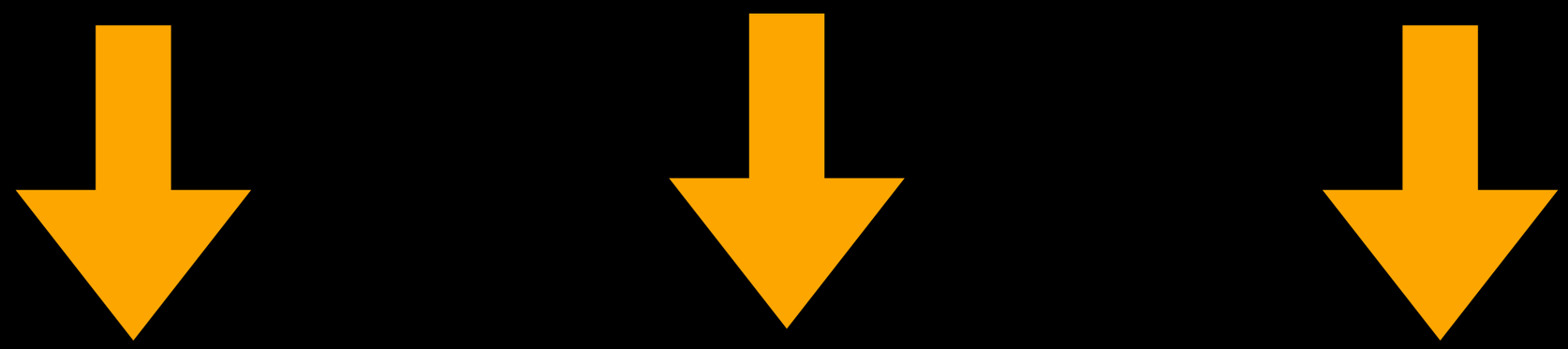
384-322 BC

Logic is the "organon", or instrument of thought, which is specifically used for acquiring knowledge.

According to Aristotle, we would not come to know anything without logic.

KNOWLEDGE ACQUISITION

When you see many people inside a subway station wearing a wet raincoat or carrying a wet umbrella, what can you tell?



It must be raining outside.

KNOWLEDGE ACQUISITION

INFERENTIAL RELATION

Wet raincoats

Rain outside

学術論文の基本的な目的は、結論へと至る論理的ステップを提示することによって、
論文の主張する結論を受け入れるよう読者を説得することである。

What is inference ?

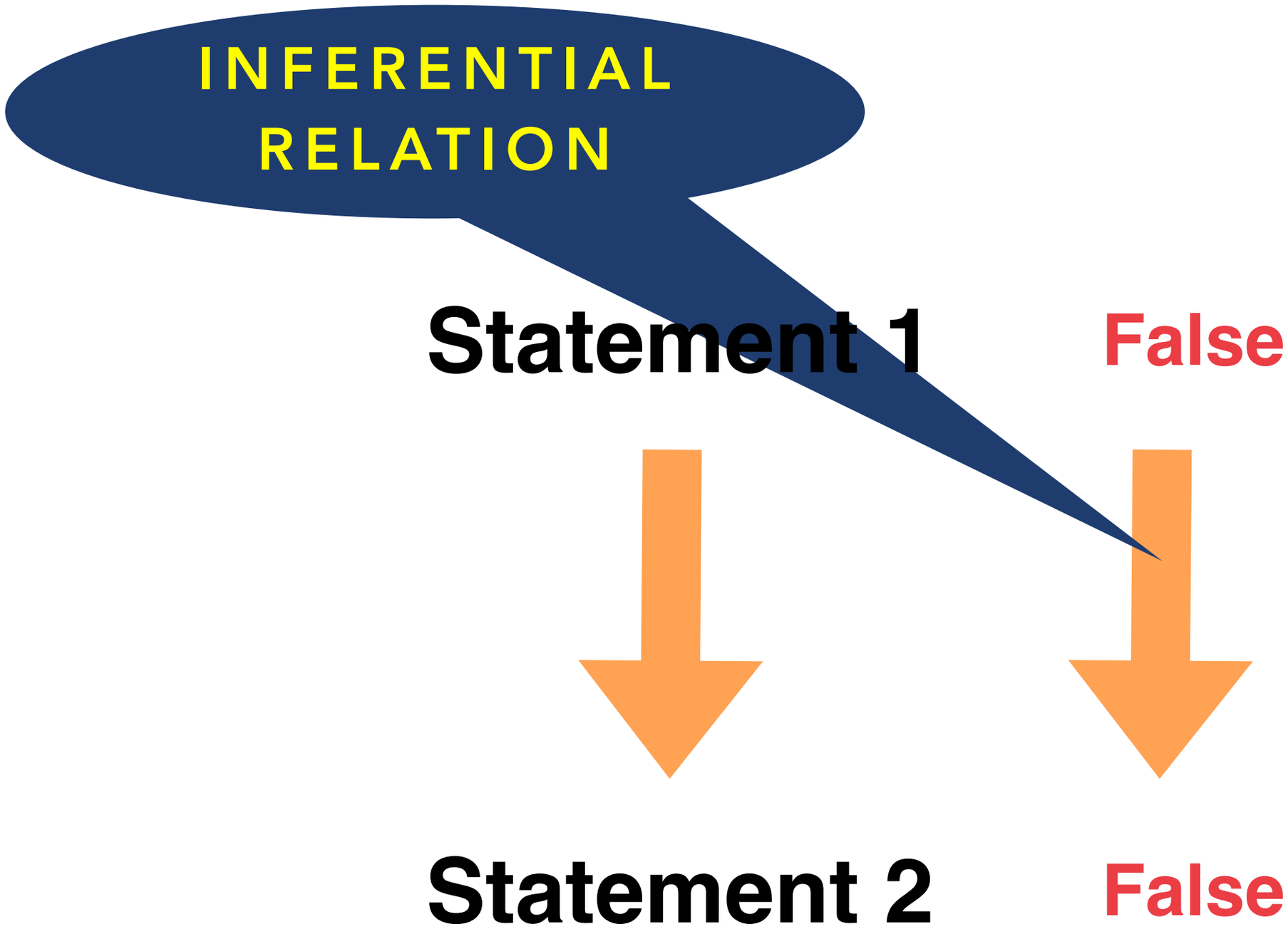
WRITING
教養教育院

INFERENTIAL RELATION

Statement 1 — **True**

Statement 2 — **True**

e.g. If Peter is in Tokyo, then Peter is in Japan.



e.g. If Peter is not in Japan, then Peter is not in Tokyo.

学術論文の基本的な目的は、結論へと至る論理的ステップを提示することによって、
論文の主張する結論を受け入れるよう読者を説得することである。

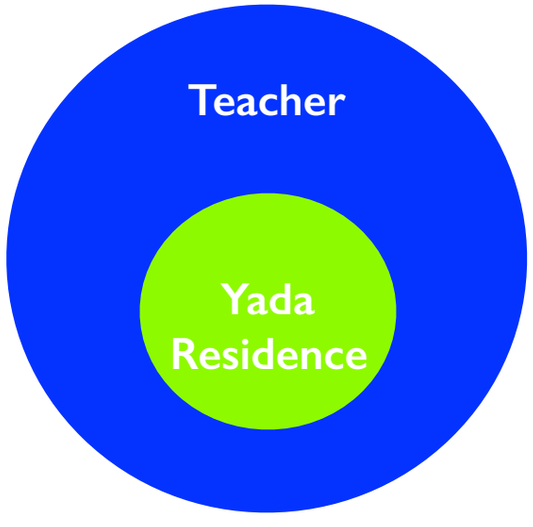
The truth/falsity of statement 1 affects the truth/falsity of statement 2

WRITING
教養教育院

Some examples of logical inferences

All people who live in Yada Residence are teachers.

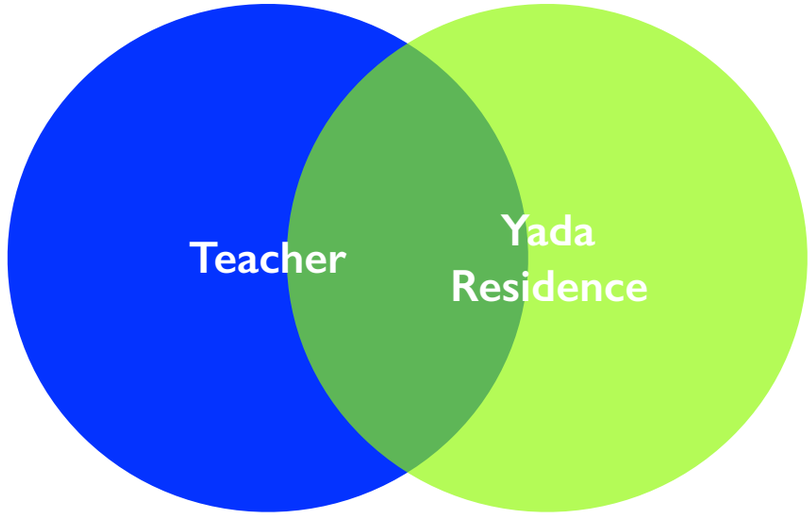
No one who lives in Yada Residence is not a teacher.



Some examples of logical inferences

Some people who live in Yada Residence are teachers.

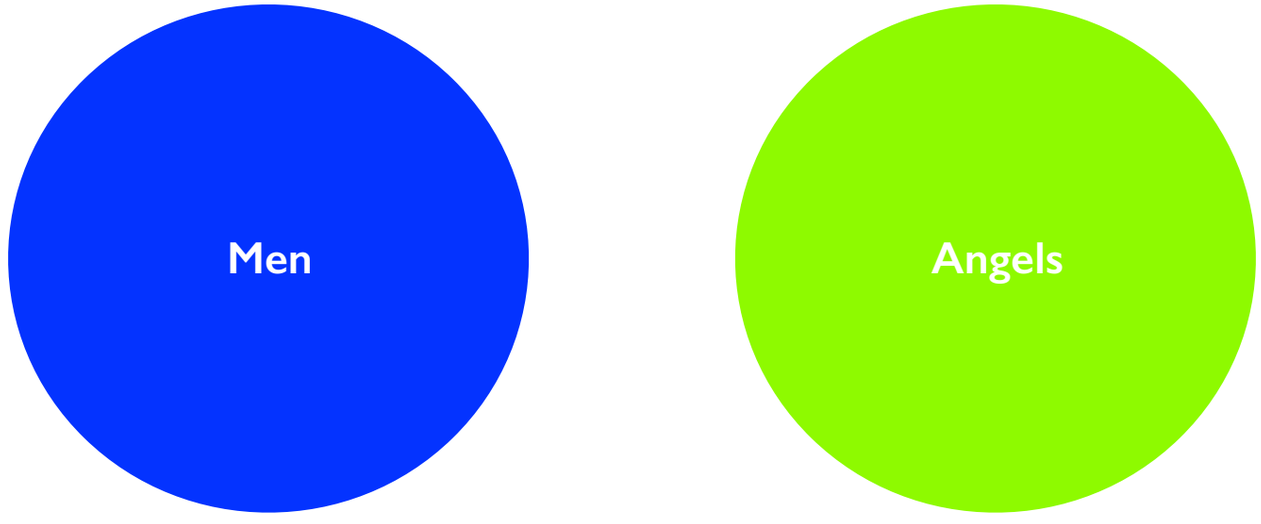
Some people who live in Yada Residence are not teachers.



Some examples of logical inferences

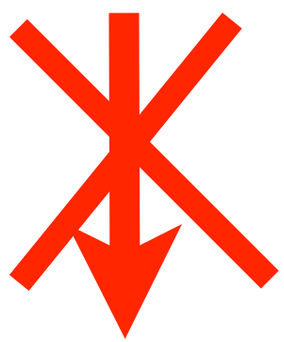
No men are angels.

No angels are men.

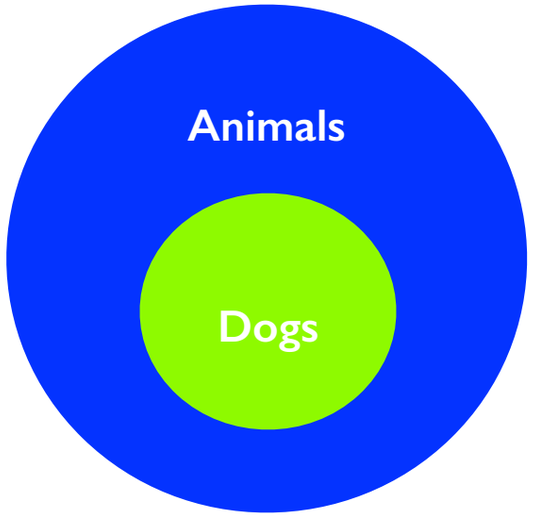


Some examples of logical inferences

All dogs are animals.

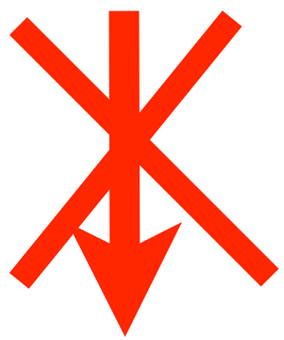


All animals are dogs.

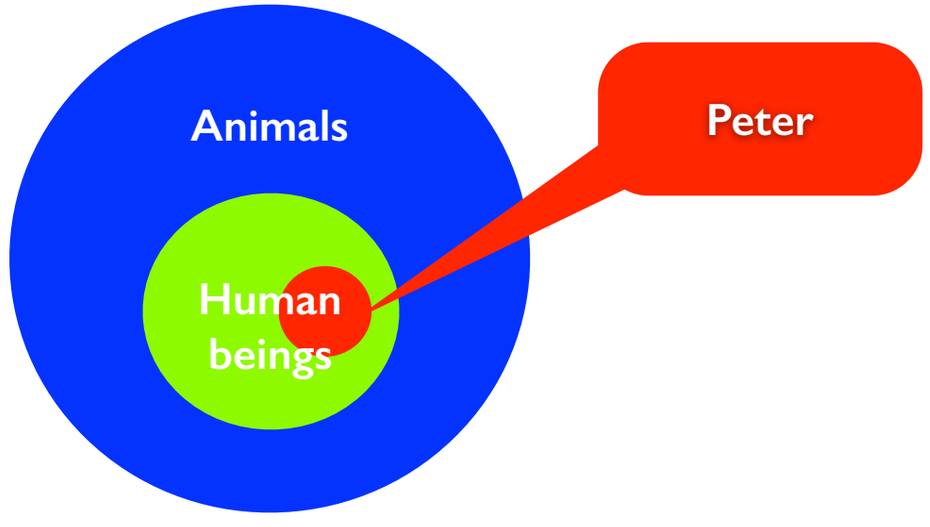


Some examples of logical inferences

All human beings are animals.



Peter is an animal.

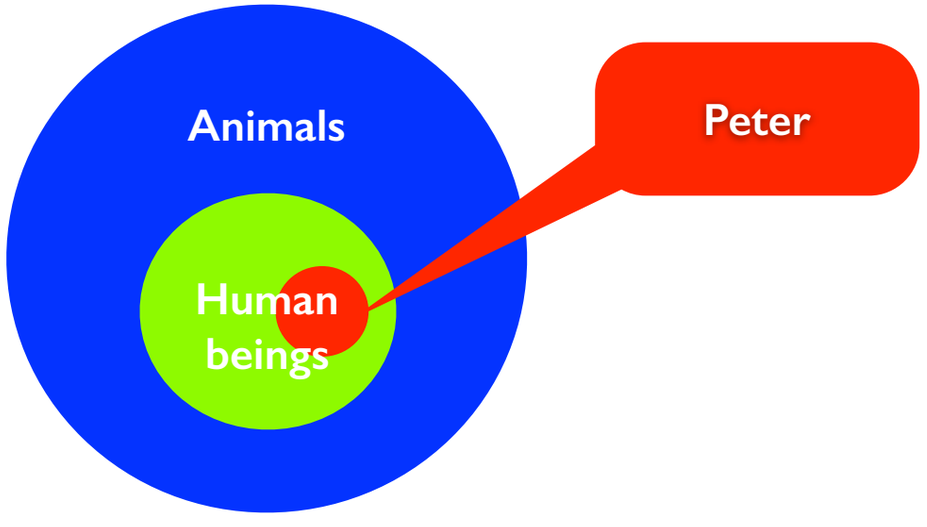


Some examples of logical inferences

All human beings are animals.

Peter is a human being.

Peter is an animal.



Understanding
how to make logical inference
is vital for understanding logic

Exercises on logical inference 1

Logical Inference

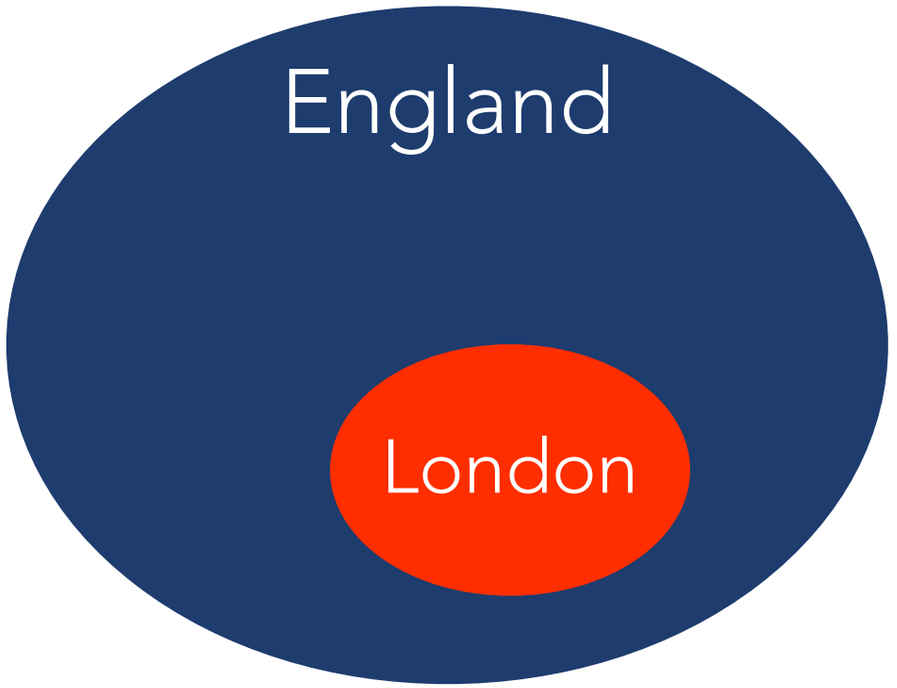
Premise **Conclusion**

Part A of the exercises is designed to train you how to make a proper inference based on a premise.

Each one of the exercises comes with (i) one statement corresponding to a factual event, and (ii) four inference choices that follow from (i). Although more than one of the four choices might be logical, you need to find out the one that is most likely / certainly true following from the truth of (i).

e.g.

Ex-1. Paul is in London.



(a) Paul is on a business trip.
(b) Paul will not come back to Japan for a while.
(c) Paul is in England.
(d) Paul likes London.

Exercises on logical inference 2

Logical Inference

Conclusion **Premise**

Part B is designed to train you how to find the proper premise for a conclusion.

Each one of the exercises comes with one conclusion and four premises. Find out the premise without which the conclusion is most certainly false. Note that your consideration is restricted to the four possible premises only, and you are supposed to choose, among the four, the one that provides the necessary support for the conclusion. Further note that additional premise or premises may be needed in order to make the conclusion true.

Fun Exercise!!

Solving Logical Puzzles

Puzzle 1:

Who is doing what?

Alonzo, Kurt, Rudolf, and Willard are four creative artists of great talent. One is a dancer, one is a painter, one is a singer, and one is a writer, though not necessarily in that order.

(1) Alonzo and Rudolf were in the audience the night the singer made his debut on the concert stage.

(2) Both Kurt and the writer have had their portraits painted from life by the painter.

(3) The writer, whose biography of Willard was a best-seller, is planning to write a biography of Alonzo.

(4) Alonzo has never heard of Rudolf.

What is each man's artistic field?

Thank you very much!

Writing Is Thinking