

# Argument by elimination

## Homework

Submit all homework assignments on Canvas as a Word (.doc or .docx) file. So that I can grade anonymously, **please do not include your name** or any other identifying information.

In addition, some exercises include a word limit or word range. For these exercises, strive for concision and simplicity (while still using complete sentences), and **include a word count** for each of your answers.

Exercise 1. Carefully review my comments on your previous homework submission, as well as the answer key.

- (a) What are the most important mistakes that you made? If you did not make any mistakes on the homework, instead tell me the most important mistakes that you made in seminar. (Range: 30-60 words.)
- (b) What specific strategies can you use to avoid such mistakes in the future? Remember to apply these strategies to the rest of this homework! (Range: 30-60 words.)

Exercise 2. Look at section 12 of Epictetus' *Handbook*.

- (a) Diagram the main argument of this section, using an argument form that we have studied. Remember to include both a numbered list of claims and a picture with one or more arrows. Be warned that the conclusion of this argument is very general and is not explicitly stated.
- (b) Briefly explain why each premise of this argument is plausible. (Limit: 25 words per premise.)

## Reading

Here you will learn two basic forms of *argument by elimination*.

The first form of argument by elimination begins by identifying all possibilities. It then eliminates all possibilities but one and concludes that this remaining possibility must be actual. For example:

1. My keys are either next to my bed, on the coffee table, or in my coat pocket.
2. My keys are not next to my bed.
3. My keys are not on the coffee table.

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4. My keys are in my coat pocket.

The second form of argument by elimination begins by identifying all possibilities *given* the truth of a certain supposition. The argument then eliminates *all* of these possibilities and concludes that the supposition is false. For example:

1. If the stolen jewel is in the thief's apartment, then it is hidden either under the carpet or in the couch cushions.
  2. It is not hidden under the carpet.
  3. It is not hidden in the couch cushions.
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4. The stolen jewel is not in the thief's apartment.

Here the supposition is that the stolen jewel is in the thief's apartment.

There are two errors that students commonly make when using argument by elimination. First, both forms of argument by elimination must include a premise identifying all possibilities (perhaps given the truth of a supposition). But students often neglect to include this crucial premise. Second, when using argument by elimination, students often fail to be precise – they often fail to ensure that the relevant claims match *word for word*, insofar as ordinary English permits.

### Warm-up exercises

First complete all but the last of these exercises on your own. Then check your answers against the answer key that is included at the end of this handout, and use what you have learned to complete the last exercise. Finally, submit all of your answers on Canvas as a Word (.doc or .docx) file.

Some exercises include a word limit or word range. On these exercises, strive for concision and simplicity (while still using complete sentences), and **include a word count**. So that I can grade anonymously, **please do not include your name** or any other identifying information.

Warm-up 1. Diagram the following argument. It's trickier than it looks!

My wallet is not in my pocket, so it must be at home.

Warm-up 2. Diagram the following argument. Make sure to match the argument form *precisely*, just as you learned to do with *modus ponens* and *modus tollens*:

If we had a clothing store on the Yale-NUS campus, there wouldn't be any customers for it! Students wouldn't buy clothes there, since they wouldn't think that Yale-NUS clothing was cool enough. And professors wouldn't buy clothes there, since they wouldn't think that Yale-NUS clothing was fancy enough.

Warm-up 3. What is the relationship between the second form of argument by elimination and modus tollens? Be precise and justify your answer. (Limit: 90 words.)

Warm-up 4. Using language that is precise, concise, and ordinary, fill in the blanks below. Note that each word range applies only to what is in the preceding blank.

In section 52, Epictetus identifies three aspects of philosophy. The first aspect is "dealing with philosophical propositions," which means \_\_\_\_\_ (range: 5-10 words). The second aspect is "that of demonstrations," which means \_\_\_\_\_ (range: 5-10 words). And the third aspect is "that of the confirmation and articulation of these," which means \_\_\_\_\_ (range: 5-15 words).

Warm-up 5. Carefully review the answer key for the warm-up exercises. Then answer the following questions.

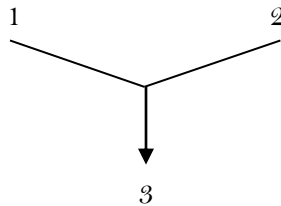
- (a) What are the most important mistakes that you made? If you did not make any mistakes, then instead reflect on the most important mistakes that you recently made in seminar. (Range: 30-60 words.)
- (b) What specific strategies can you use to avoid these mistakes in the future? (Range: 30-60 words.)

Sample answers to warm-up exercises
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Warm-up 1. Diagram the following argument. It's trickier than it looks!

My wallet is not in my pocket, so it must be at home.

1. My wallet is either in my pocket or at home.
2. My wallet is not in my pocket.
3. My wallet is at home.

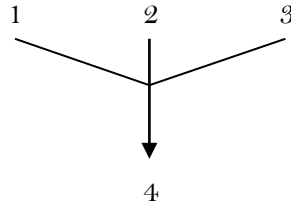


Make sure that you remembered to include claim 1! More generally, it is often the case that arguments are given only in part – it is left to the audience to fill in the rest. So *use your knowledge of the argument forms* to identify what pieces are missing and to insert them.

Warm-up 2. Diagram the following argument, making sure to match the argument form *precisely*:

If we had a clothing store on the Yale-NUS campus, there wouldn't be any customers for it! Students wouldn't buy clothes there, since they wouldn't think that Yale-NUS clothing was cool enough. And professors wouldn't buy clothes there, since they wouldn't think that Yale-NUS clothing was fancy enough.

1. If there would be any customers for a clothing store on the Yale-NUS campus, then those customers would either be students or professors.
2. Students would not be customers for a clothing store on the Yale-NUS campus.
3. Professors would not be customers for a clothing store on the Yale-NUS campus.
4. There would not be any customers for a clothing store on the Yale-NUS campus.



Notice that the following claims have not been included:

5. Students wouldn't think that Yale-NUS clothing was cool enough.
6. Professors wouldn't think that Yale-NUS clothing was fancy enough.

Make sure that you did *not* pack claim 5 into claim 2, and that you also did *not* pack claim 6 into claim 3. It would be incorrect to do so, since these claims are connected by the evidential signpost "since."

Thus, if you want to include these claims, then you should add them separately. You can include claim 5 as evidence for claim 2, and likewise you can include claim 6 as evidence for claim 3.

Warm-up 3. What is the relationship between the second form of argument by elimination and modus tollens? Be precise and justify your answer. (Limit: 90 words.)

The two argument forms are effectively equivalent. For the second form of argument by elimination can be expressed as follows:

1. If x, then (y or z or ...).
  2. Not-(y or z or ...).
- Therefore,
3. Not-x.

But this is simply a version of modus tollens. Similarly, modus tollens is a limit case of the second form of argument by elimination: it is the case in which there is only one possibility to eliminate. (75 words)

Warm-up 4. Using language that is precise, concise, and ordinary, fill in the blanks below. Note that each word range applies only to what is in the preceding blank.

In section 52, Epictetus identifies three aspects of philosophy. The first aspect is "dealing with philosophical propositions," which means acting in accordance with philosophical truths (range: 5-10 words). The second aspect is "that of demonstrations," which means showing that these are in fact truths (range: 5-10 words). And the third aspect is "that of the confirmation and articulation of these," which means clarifying the meanings of the concepts required to understand these truths (range: 5-15 words).