Logic, Reasoning, and Persuasion 07; Deductive Reasoning Midterm
Monday, October 20th, 2025. 100 points (20 questions, 5 points per question). Closed book, one sheet (double-sided) of notes allowed. No other resources allowed. ***Please write answers in the Blue Book!***

Practice Midterm!!! This is approximately the same format as the actual midterm, but the actual midterm will have different questions.

1 | Statements and Arguments (60 points)

1.1 | Statements (15 points)

For each of the following, identify (a) whether it is a statement, and (b) if you said "yes" to statement, whether or not it is **simple**. You may give a brief explanation of your reasoning, but you don't have to.

1. The tallest mountain in the world is the Chrysler building.
2. The Mariana Trench: the deepest place on Earth.
3. You should not enter the experience machine if you would not be truly experiencing your real life.

1.2 | Truth-Preservation (15 points)

Determine whether each of these arguments is truth-preserving:

1. First Argument:
   - P1 If voter-ID laws are strict rather than lax, there will be no voter fraud.
   - P2 Right now, voter-ID laws are lax.
   - C So there will be voter fraud.
2. Second Argument:
   - P1 Flight delays increased after the Government shut down.
   - C Therefore, the Government shut down caused the flight delays.
3. Third Argument:
   - P1 No unicorns have horns.
   - P1 Bob has a horn.
   - C So Bob is not a unicorn.

1.3 | Missing Premises (15 points)

For each of these, supply a missing premise that would make the argument stronger:

1. Philosophers like Hidden Grounds, so Adrian likes Hidden Grounds.
2. The ground is probably wet right now, since the ground usually gets wet when it rains.
3. Workers at A2Z Corp could always quit and find a different job, so nobody should complain about poor working conditions at A2Z Corp.

1.4 | *Deductive and Inductive Arguments (15 points)*

Recall that an argument is **deductive/truth-preserving** if whenever the premises are true, the conclusion is guaranteed to be true, and an argument is **inductive/probability-raising** if whenever the premises are true, the conclusion is *more likely* to be true.

Identify if each is the following arguments is intended to be deductive or inductive:

1. I'm in New Brunswick, and New Brunswick is in New Jersey, so I'm in New Jersey.
2. Nothing is bigger than the universe, and a mouse is bigger than nothing, so a mouse is bigger than the universe.
3. The fact that I wouldn't push someone onto the train tracks in order to save five other people means I value something other than just the number of lives saved.

2 | Argument Mapping (40 points)

2.1 | *Simplifying Statements (15 points)*

The following are complex statements. For each,

1. Split up the statement, rephrasing if needed, until it is some number of smaller, simple statements.
2. Draw the support relations of the statements, where applicable.

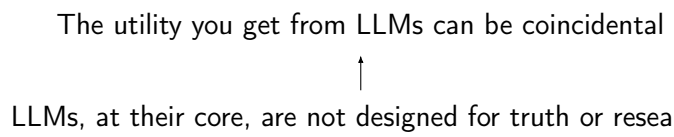
Questions (5 points each)

1. I'm in New Brunswick, and New Brunswick is in New Jersey, so I'm in New Jersey.
2. The fact that I wouldn't push someone onto the train tracks in order to save five other people means I value something other than just the number of lives saved.
3. I value something other than just the number of lives saved, so I wouldn't push someone onto the train tracks in order to save five other people.

Example

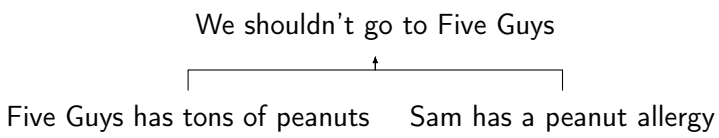
Statement: "Because LLMs, at their core, are not designed for truth or research, the utility you get from them can be coincidental."[a]

Mapping:



Statement: "Sam has a peanut allergy, and Five Guys has tons of peanuts, so we shouldn't go in to Five Guys."

Mapping:



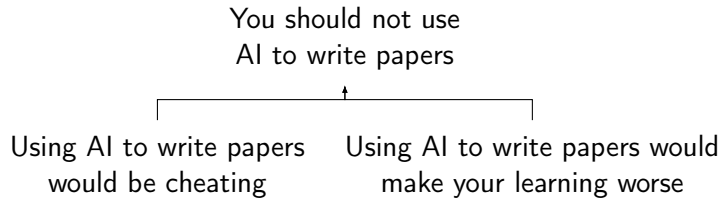
a. Paraphrased from Lin, "Why We're Not Using AI In This Course."

2.2 | Mistakes in Argument Mapping (15 points)

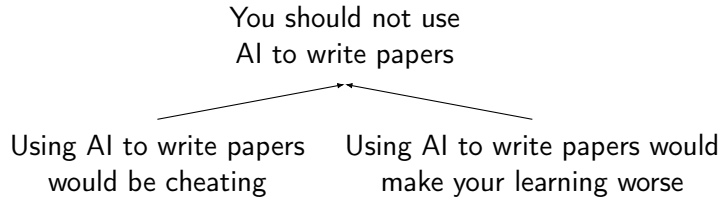
For each box (A, B, C), identify the option in the box that gives the most correct argument (the other ones makes mistakes about argument mapping).

A

Option 1:

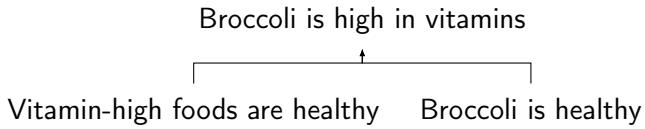


Option 2:

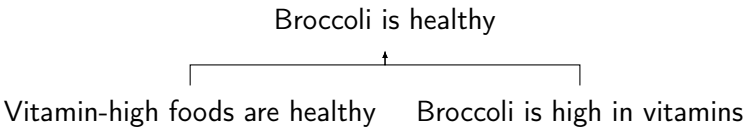


B

Option 1:



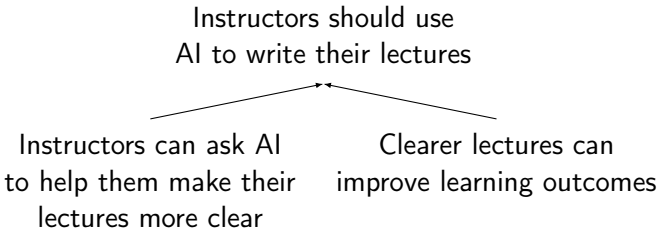
Option 2:



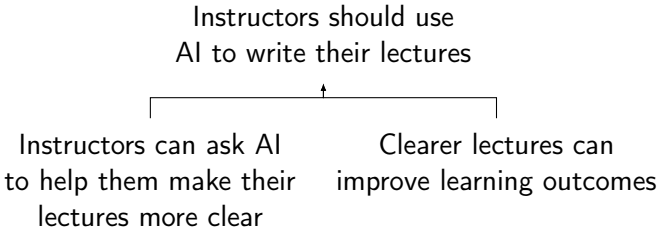
(Box C is on the next page)

C

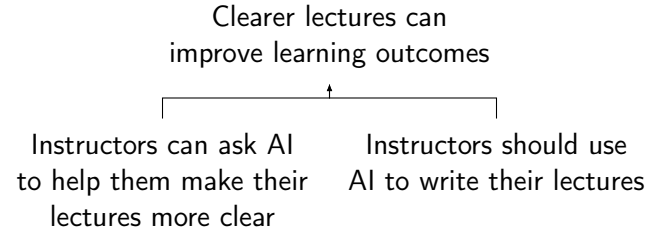
Option 1:



Option 2:

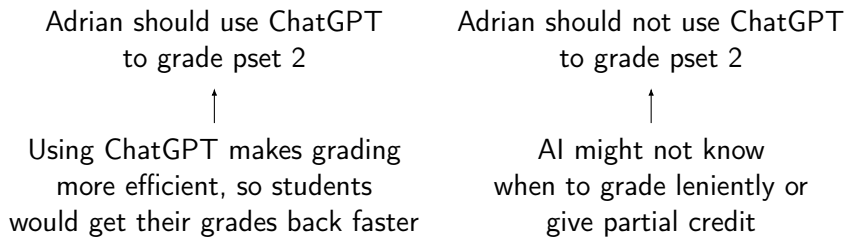


Option 3:



2.3 | Making an Argument Map (10 points)

Here are two arguments, one for the conclusion that Adrian *should* use AI to grade pset 2, and one for the conclusion that Adrian *should not*:



Choose **one** of these arguments, and do **both of** the following:

1. Add another premise beside the premise (a "co-premise") that makes the argument stronger (5 points).
2. Formulate an *objection* to this argument: a statement/consideration that makes this argument less convincing (5 points).