Guidelines for Annotating "Logic Patterns of Attack" in Debate Arguments

Introduction

We have two types of argumentative text/speech, conveyed by each opposing team of a debate:

1. Speech from Prime Minister (PM)
2. Speech from Leader of Opposition (LO)

and we would like to find out the logic pattern of **how LO speech attack PM speech**

Example of PM speech:

> Hello everyone. Today's topic is Homework should be abolished". We have two points: The first point is "free time" and the second point is "decrease burden on teachers". I will explain the first point of "free time". We believe that if homework were to be abolished, we could have more free time. As a result, we could do more of what we really wanted like club activities, hobbies, or playing with friends. In my case, I go to tennis club after class until 5:00 pm and then I go to cram school until 8:00 pm. After this full day, I arrive at my home around 8:40 pm to eat dinner and take a shower. At nearly 10:00 pm I start my homework. I have a lot of homework. As a result, I go to bed late at night at nearly 1:00 am in the morning and I don't have the opportunity to sleep for a long period of time. It is not healthy. Therefore, homework should be abolished.

Example of LO speech:

> They said that if we don't have homework, we have more free time and more healthy day. And teachers' burden will be decreased. However, a number of people who don't study at all will increase. People are forgetful, so not doing homework leads to insufficient fixing of class contents of the day. Thus during a week immediately before a semester test people who don't do class reviews will be more busy and then, they will fail in the examination for lack of preparation. To decrease a number of people who repeat years, homework is necessary.

Approach:

Focus on highest level of logic i.e., main point of PM and LO speech

- The main point can be explicit or implicit in the speech (please see the examples and description below).

Data:

Speeches are given on 2 topics

- "homework should be abolished"
  - 4 PM speech
  - 116 LO speech which corresponds to the 4 PM speeches
- "death penalty should be abolished"
  - 4 PM speech
  - 134 LO speech which corresponds to the 4 PM speeches

Examples of logic pattern of attack and relations/symbols used in the logic patterns

Please take a look at the following relations/symbols and examples to understand what kind of logic patterns we want and then read the step-by-step guideline.

Relations/symbols used for drawing the logic patterns:

Please note that our main focus is on the "promote" and "suppress" relation (i.e., we want to represent the logic (how LO attacks PM) based on these 2 causal relations). Other relations just help to represent these 2 main relations.

Definition of the relations/symbols:

(1) Promote: Promote indicates to a phenomenon where something causes/ generates/ produces/ encourage another thing

- e.g., "no homework" promotes "free time"

(2) Suppress: Suppress indicates to a phenomenon where something hinders/ prevents/ restrains/ discourage another thing

- e.g., "homework" suppress "free time"

(3) Good/Bad labels: These labels represent the positive/negative feeling of the writer towards the "consequence" produced by a promote/suppress relation (i.e., "Y" in {X promotes Y}).

- e.g., {homework is negative} because {homework suppresses "free time" which is good" ("free time" is good)}. Here, the writer is trying to say: {Homework is negative} because {homework suppresses something good}. That's why "free time" will have a "good" label.

(4) Rationale/condition: It indicates to the writer's reasoning/logic/justification behind a (i) promote/suppress relation or (ii) good/bad labeling"

- (e.g., "death penalty" doesn't promote "brutalization of modern society" given the rationale/condition that "when some people acts like 'cancer' or the society considers one as a 'cancer' to society, it is necessary to cut off the part").
- It can also be used for supporting good/bad labeling.
  (e.g., In "X promotes Y, which is bad given the condition A", A is supporting Y itself rather than the X-Y relation by providing the reason why Y is bad)

(5) Nullify (attack): Indicates canceling/invalidating/abolishing a relation/logic of PM speech

- (e.g., {"homework" is more important than "free time" given the rationale/condition that "homework is part of education"} nullify the relation/logic {"homework" is negative}).
- It basically represents the attack of LO.

(6) Acknowledgement: Agreeing/accepting some logic/relation of PM speech (generally explicitly stated, but in special cases it can be implicit (please see the detailed description section of relations/symbols))

- (e.g., PM says {"no homework" promotes "free time"}. LO says {"homework" is more important than "free time" given the reason/condition that "homework is part of education"}. In this speech, LO implicitly acknowledges that {"no homework" promotes "free time"} but counter-attack that relation saying {"homework" is more important than "free time"}).
- In other words, while LO agrees that PM's supporting argument {"no homework" promotes "free time"} is true, LO attacks PM's main argument {"homework" is negative} by stating {"homework" is more important than "free time"}

(7) Negation: This symbol is used to negate a relation/logic of PM speech or to represent the expression "no".

- e.g., PM says {"death penalty" promote "brutalization of modern society"}. LO says {"death penalty" doesn't promote "brutalization of modern society" given the reason/condition that "when some people acts like 'cancer' to society, it is necessary to cut off the part"}. In this LO speech "doesn't" is represented by the negation symbol).
- e.g., PM says {"no homework" promotes "free time", Here, "no" is also represented by the negation symbol.

(8) Mitigation/alleviation: Sometimes instead of fully negating a relation/logic of PM speech, LO says that the severity of the relation can be reduced/mitigated.

- e.g., LO says {"death penalty" promotes "executioner's suffering" (which is bad)} can be mitigated given the rationale/condition "making sure would-be executioners have a good mental support system"}. Here, LO doesn't completely negate/deny the PM logic that {"death penalty" promotes "executioner's suffering"}, rather says that the severity of this situation can be reduced/mitigated.

(9) Contradiction: Indicates to the situation where some relation/logic of PM and LO speech are opposed to one another.

- e.g., PM says {"homework" promotes "obliged to study by their teachers and parents" which is bad ("obliged to study by their teachers and parents" is bad)}. LO says {"homework" promote "obliged to study by their teachers and parents" which is good

given the reason that "children also do not know what is useful in the future"}. Here the LO logic is contradictory to PM logic.

(10) "is more important/severe/has greater weight" relation: This relation can be used in two circumstances: (1) to show that some promote/suppress relation has greater weight/value than another promote/suppress relation and (2) to show that the "cause" of a promote/suppress relation has greater weight/value than its "consequence" and vice versa.

- (1) e.g., {"no homework" promote "a number of people who repeat years" (which is bad)} has greater weight/value than {"no homework" promote "free time" (which is good)}
- (2) e.g., "homework" has greater weight/value than "do more of what we really wanted like club activities, hobbies, or playing with friends"(which is good)} given the reason "homework is part of education".

(11) Function (π): This symbol is used to join two/more relations (generally used in LO speech).

(e.g., {"no homework" promotes "take time to catch up with classes"} and {"take time to catch up with classes" suppresses "free time"}. If we join these 2 relations we will get {"no homework" suppress "free time"}. For joining such relations, this function symbol is used.

(12) Limit (attack): Indicates limiting the probability of occurrence of a causal relation.

- used with "mitigation"
    - Because, in case of "mitigation", LO somehow acknowledges and negates the supporting statement of the PM at the same time, which is kind of different than pure "nullify" (attack).
- e.g., LO says {"death penalty" promotes "executioner's suffering" (which is bad)} can be mitigated given the rationale/condition "making sure would-be executioners have a good mental support system"} limits (attack) the PM's supporting argument {"death penalty" promotes "executioner's suffering" (which is bad)}

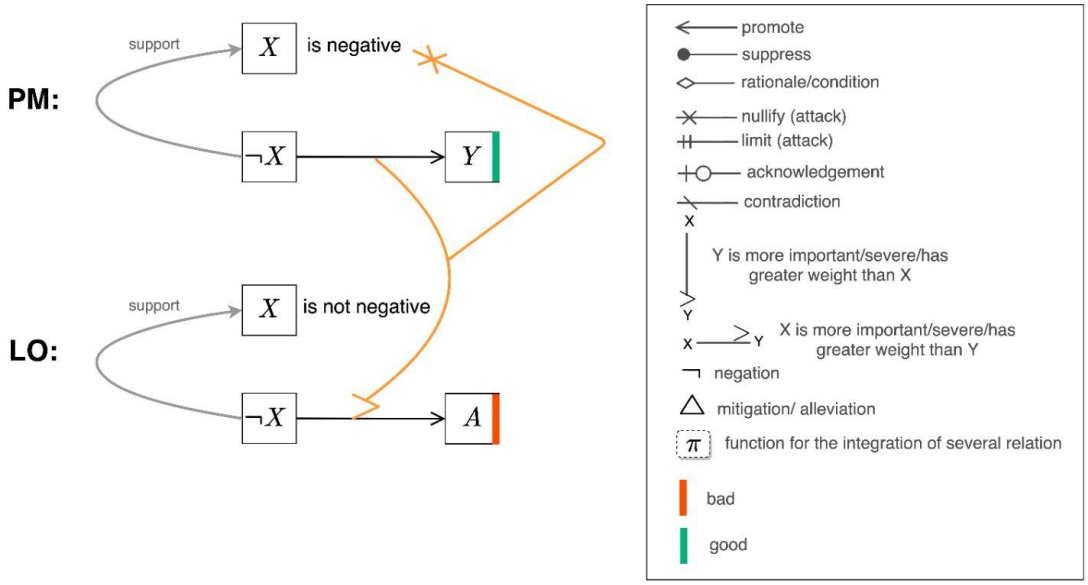
Please see the more detailed description of some of these relations/symbols (and when/how to use them) after the examples and text descriptions of logic patterns

Examples of logic pattern of attack:

Example 1

PM Speech:
Hello everyone. Today's topic is "**[Homework]**$_{(X)}$ should be abolished". We have two points: The first point is "free time" and the second point is "decrease burden on teachers". I will explain the first point of **["free time"]**$_{(Y)}$. We believe that if homework were to be abolished, we could have more free time. As a result, we could do more of what we really wanted like club activities, hobbies, or playing with friends. In my case, I go to tennis club after class until 5:00 pm and then I go to cram school until 8:00 pm. After this full day, I arrive at my home around 8:40 pm to eat dinner and take a shower. At nearly 10:00 pm I start my homework. I have a lot of homework. As a result, I go to bed late at night at nearly 1:00 am in the morning and I don't have the opportunity to sleep for a long period of time. It is not healthy. Therefore, homework should be abolished. Thank you.

LO Speech:
They said that if we don't have homework, we have more free time and more healthy day. And teachers' burden will be decreased. However, a number of people who don't study at all will increase. People are forgetful, so not doing homework leads to insufficient fixing of class contents of the day. Thus during a week immediately before a semester test people who don't do class reviews will be more busy and then, they will fail in the examination for lack of preparation. To decrease **[a number of people who repeat years]**$_{(A)}$, homework is necessary.



Description of the logic pattern

[PM]
{"homework" is negative}
because

{"no homework" promote "free time" (which is good)}

[LO]
{"homework" is not negative}
because

{"no homework" promote "a number of people who repeat years" (which is bad)}

[Attack]
{"no homework" promote "a number of people who repeat years" (which is bad)}
is more important/severe/has greater weight than
{"no homework" promote "free time" (which is good)}

[{"no homework" promote "a number of people who repeat years" (which is bad)} is more important/severe/has greater weight than {"no homework" promote "free time" (which is good)}]
nullify PM's main argument
{"homework" is negative}

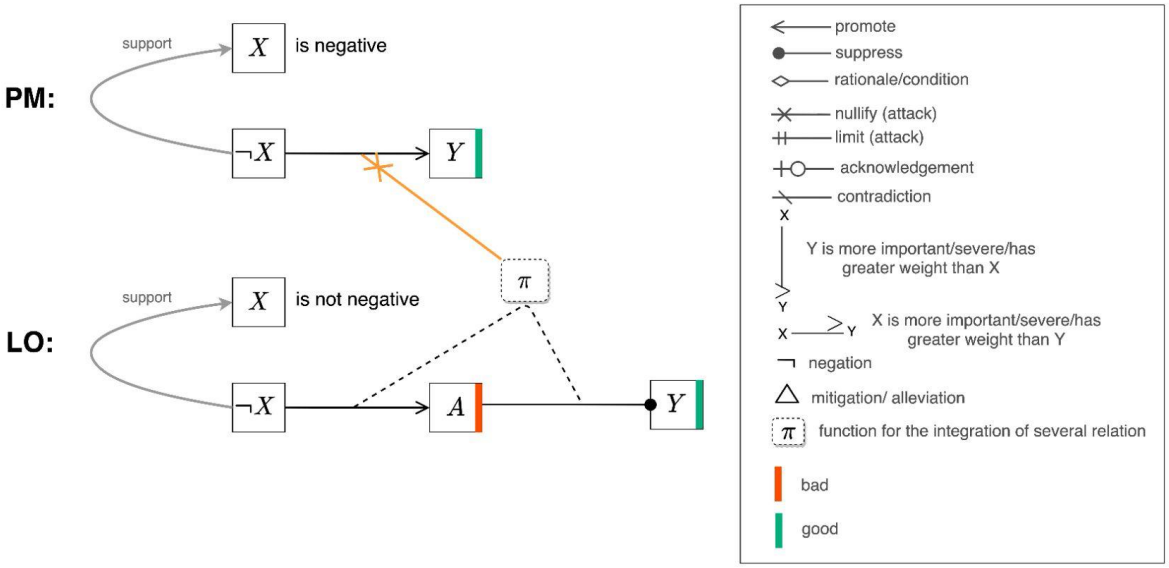
How to read the logic pattern:

- **PM:**
  - {"X" is negative because "no X" promote "Y" which is good}
  - "Homework" is negative because "no homework" promotes "free time" which is good ("free time" is good)
- **LO:**
  - {"X" is not negative because "no X" promote "A" which is bad}
  - "Homework" is not negative because "no homework" promotes "A number of people who repeat years" which is bad ("A number of people who repeat years" is bad)
- **Attack (yellow colored relation in the logic graph):**
  - ("no homework" promotes "A number of people who repeat years" which is bad) is more important/severe/has greater weight than ("no homework" promotes "free time" which is good)
  - This "has greater weight/value" relation nullifies the PM's statement/logic i.e., {"homework" is negative}.
  - Please note that this "X is more important/severe/has greater weight/value than Y" relation is implicit (most of the time) in the LO speech.

Example 2

PM Speech:
Hello everyone. Today's topic is "**[Homework]**$_{(X)}$ should be abolished". We have two points: The first point is "free time" and the second point is "decrease burden on teachers". I will explain the first point of **["free time"]**$_{(Y)}$. We believe that if homework were to be abolished, we could have more free time. As a result, we could do more of what we really wanted like club activities, hobbies, or playing with friends. In my case, I go to tennis club after class until 5:00 pm and then I go to cram school until 8:00 pm. After this full day, I arrive at my home around 8:40 pm to eat dinner and take a shower. At nearly 10:00 pm I start my homework. I have a lot of homework. As a result, I go to bed late at night at nearly 1:00 am in the morning and I don't have the opportunity to sleep for a long period of time. It is not healthy. Therefore, homework should be abolished. Thank you.

LO Speech:
They said that if homework were to be abolished, we can enjoy more free time. However, it's not true. Because instead of doing homework, we have to **[take time to catch up with classes]**$_{(A)}$. Please recognize purpose of homework. Homework exists to facilitate our efficient review and preparation for classes such as practice of using some formulas, or writing kanji. That's why even without homework, we have to study by ourselves anyway to understand classes. But problem is; we will take time to decide contents and review knowledge. Because we don't know what we should do. Given that, we can't have more free time on Gov side and homework rather allow we to study efficiently and have more free time..



Description of the logic pattern

[PM]
{"homework" is negative}
because

{"no homework" promote "free time" (which is good)}

[LO]
{"homework" is not negative}
because

{"no homework" promote "take time to catch up with classes" (which is bad)} and {"take time to catch up with classes" suppress "free time" (which is good)}

[Attack]
({"no homework" promote "take time to catch up with classes" (which is bad)} and {"take time to catch up with classes" suppress "free time" (which is good)})
nullify PM's supporting argument
{"no homework" promote "free time" (which is good)}

How to read the logic pattern:

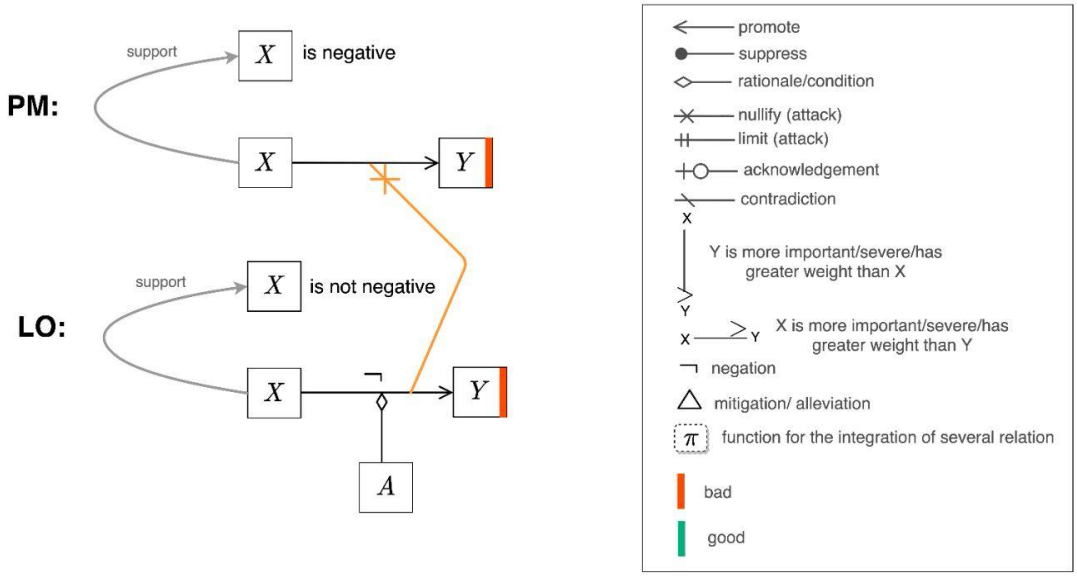
- **PM:**
  - {"X" is negative because "no X" promote "Y" which is good}
  - "Homework" is negative because "no homework" promotes "free time" which is good ("free time" is good)

- **LO:**
  - {"X" is not negative because "no X" promote "A" which is bad and "A" ultimately suppress "Y" which is good}
  - "Homework" is not negative because "no homework" promotes "take time to catch up with classes" which is bad ("take time to catch up with classes" is bad) and "take time to catch up with classes" ultimately suppress "free time"
- **Attack (yellow colored relation in the logic graph):**
  - {("no homework" promotes "take time to catch up with classes") and ("take time to catch up with classes" suppress "free time")}, it means that ("no homework" ultimately suppress "free time") (showed by the function in the logic graph)
  - and this function nullifies the PM's statement that ("no homework" promotes "free time")

Example 3

PM Speech:
Hello everyone. Today, we are given the motion that the death penalty should be abolished. We strongly support this motion. Before explaining our arguments, let me define the motion. We are going to abolish the **[death penalty]**$_{(X)}$ all over the world and introduce a life-imprisonment system. It means that criminals stay in jail forever. We have two points. First point is "Rehabilitation". The second point is "World's trend". So, let me explain our first argument. Our claim is that the death penalty deprives the chance of rehabilitation of the criminals. Our reasoning is as follows. In the case of a serious crime such as murder, especially random killing of many people, a heavy punishment should be sentenced. The death penalty might be an option, but it just ends the life of a criminal and solves nothing. The **[criminal has no chance to reflect on what they have done]**$_{(Y)}$. They need to reflect on their wrong-doing every day. They should spend their lives reflecting on it. Life imprisonment system is, in a sense, a very severe punishment. Criminals are restricted of their freedom all day. They need to continue to apologize for the rest of their life while thinking about their victims. Moreover, there is a perspective that the society creates the criminals. For example, imagine a case that a student who was always been bullied and notified others such as teachers and the community, but they did nothing to help. The student was ignored by everyone. In that case, it is understandable that the student attacks others due to their anger at a society where no one helps. Like this, a society also has a responsibility for a criminal, and for this reason, it is a government task to set the opportunity of rehabilitation in the life imprisonment system. The death penalty is an irresponsible act by the nation. For all these reasons, we beg to propose. Thank you.

LO Speech:
They said that the death penalty should be abolished because it denies criminals the chance to reflect on what they've done. However, [**sitting on death row actually provides a nearly perfect setting for reflecting on the actions that led the inmate to this fate]**$_{(A)}$. With lengthy appeals pretty much standard in death penalty cases, it isn't unusual for death row inmates to spend years awaiting their execution. During this time, they are separated from the general prison population. Thus, they have nothing to do but to think about what they've done and who they've wronged. They have time to come to terms with their offense, to make peace with their maker, even to finally express remorse for their crime and apologize to their victim. The death row inmate often has the opportunity to meet with clergy and confess, as well, another opportunity for self-reflection.



Description of the logic pattern

[PM]
{"death penalty" is negative}
because

{"death penalty" promote "criminal has no chance to reflect on what they have done" (which is bad)}

[LO]
{"death penalty" is not negative}
because

{"death penalty" doesn't promote "criminal has no chance to reflect on what they have done" (which is bad)}
given the rationale/condition that
"sitting on death row actually provides a nearly perfect setting for reflecting on the actions that led the inmate to this fate"

[Attack]
[{"death penalty" doesn't promote "criminal has no chance to reflect on what they have done" (which is bad)} given the rationale/condition that "sitting on death row actually provides a nearly perfect setting for reflecting on the actions that led the inmate to this fate"]
nullify PM's supporting argument
{"death penalty" promote "criminal has no chance to reflect on what they have done" (which is bad)}

How to read the logic pattern:

- **PM:**
  - {"X" is negative because "X" promotes "Y" which is bad}
  - "death penalty" is negative because "death penalty" promotes "criminal has no chance to reflect on what they have done" which is bad ("criminal has no chance to reflect on what they have done" is bad)
- **LO:**
  - {"X" is not negative because "X" doesn't promote "Y" which is bad given the condition/reason "A"}
  - "death penalty" is not negative because "death penalty" doesn't promote "criminal has no chance to reflect on what they have done" which is bad given the condition/reason that "sitting on death row actually provides a nearly perfect setting for reflecting on the actions that led the inmate to this fate".
- **Attack (yellow colored relation in the logic graph):**
  - ("death penalty" doesn't promote "criminal has no chance to reflect on what they have done" (which is bad) given the condition/reason that "sitting on death row actually provides a nearly perfect setting for reflecting on the actions that led the inmate to this fate") nullifies the PM's statement that ("death penalty" promotes "criminal has no chance to reflect on what they have done" (which is bad))

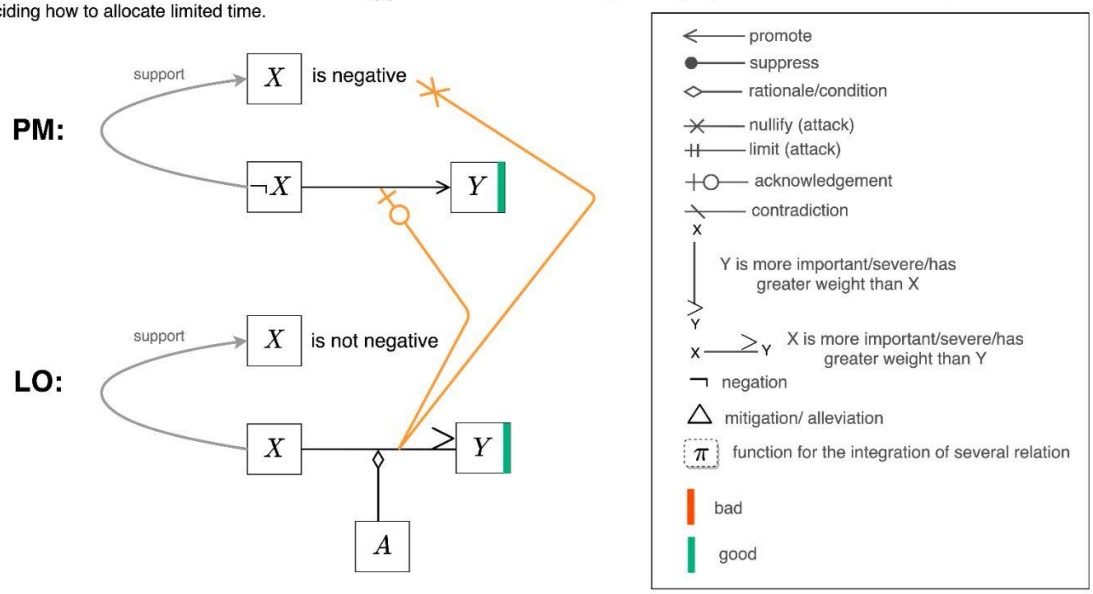
Example 4:

PM Speech:

Hello everyone. Today's topic is "**[Homework]**$_{(X)}$ should be abolished". We have two points: The first point is "free time" and the second point is "decrease burden on teachers". I will explain the first point of "free time". We believe that if homework were to be abolished, we could have more free time. As a result, we could [**do more of what we really wanted like club activities, hobbies, or playing with friends]**$_{(Y)}$. In my case, I go to tennis club after class until 5:00 pm and then I go to cram school until 8:00 pm. After this full day, I arrive at my home around 8:40 pm to eat dinner and take a shower. At nearly 10:00 pm I start my homework. I have a lot of homework. As a result, I go to bed late at night at nearly 1:00 am in the morning and I don't have the opportunity to sleep for a long period of time. It is not healthy. Therefore, homework should be abolished. Thank you.

LO Speech:

They said that homework doesn't fit into the student's busy schedule. However, in life, it is important to learn how to prioritize activities. Having a busy schedule is a fact of life for students, and being too busy to fit in every possible activity is something that continues into adulthood. That's why it's so important to figure out how to decide which activities matter most and deserve priority over less meaningful activities. It's pretty easy to see that homework is more important than playing video games or hanging out with friends at the mall, for instance, since **[homework is part of education]**$_{(A)}$. Thus, the student should put "doing my homework" at or near the top of the list when deciding how to allocate limited time.



Description of the logic pattern

[PM]
{"homework" is negative}
because

{"no homework" promote "do more of what we really wanted like club activities, hobbies, or playing with friends" (which is good)}

[LO]
{"homework" is not negative}
because

{"homework" is more important/severe/has greater weight than "do more of what we really wanted like club activities, hobbies, or playing with friends"(which is good)}
given the rationale/condition that
"homework is part of education".

[Attack]
[{"homework" is more important/severe/has greater weight than "do more of what we really wanted like club activities, hobbies, or playing with friends" (which is good)} given the rationale/condition that "homework is part of education"]
nullify PM's main argument
{"homework" is negative}
and at the same time acknowledge PM's supporting argument
{"no homework" promote "do more of what we really wanted like club activities, hobbies, or playing with friends" (which is good)}

How to read the logic pattern:

- **PM:**
  - {"X" is negative because "no X" promote "Y" which is good}
  - "Homework" is negative because "no homework" promotes "do more of what we really wanted like club activities, hobbies, or playing with friends" which is good ("do more of what we really wanted like club activities, hobbies, or playing with friends" is good)
- **LO:**
  - {"X" is not negative because "X" is more important than "Y" given the reason "A"}
  - "Homework" is not negative because "homework" is more important than "do more of what we really wanted like club activities, hobbies, or playing with friends" given the reason that "homework is part of education".
- **Attack (yellow colored relation in the logic graph):**
  - ("homework" is more important than "do more of what we really wanted like club activities, hobbies, or playing with friends" given the reason that "homework is part of education") nullifies the PM's statement that ("homework" is negative)
  - but at the same time it also acknowledges the fact that ("no homework" promotes "do more of what we really wanted like club activities, hobbies, or playing with friends")

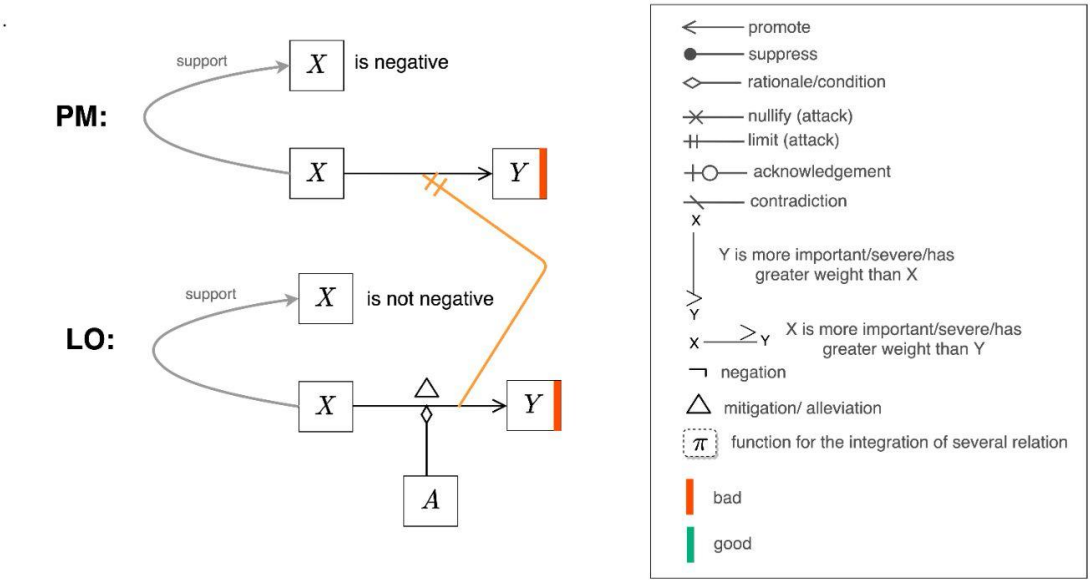
Example 5:

PM Speech:

Hello, everyone. Today's topic is "Death penalty should be abolished". We define that the [**death penalty**](X) should be abolished and instead of the death penalty, we propose that the suspected are sentence to life in. We have two points. The first point is [**"Executioner's suffering"**](Y). The second point is "Cruelty of death penalty". I will explain the first point. In present situations, a person who executes the death penalty for a criminal whose death penalty has been confirmed by a trial suffers a lot. Some methods of the death penalty include hanging and using gas chambers. Let me illustrate the case of hanging in Japan. A prisoner does not know when they will be executed until the day of execution. At the day of execution, they first enter the teacher's room and write a farewell letter. Then, they go to the antechamber for execution and are separated from the execution room by a curtain. The convict on death row is blindfolded and handcuffed, and a curtain is closed to the execution room. Finally, they go to the execution room. A rope is hung around their neck and they stand on a tread plate marked in the center of the room. Then, multiple prison officers push the button to open and close the tread, and the convict on death row falls. Those executioners feel strong stress. They don't know which button is actually connected to the input of the tread. They feel that they are responsible themselves for killing the suspect on death row by their own hands. Executers' stress is extremely overwhelming. That's why the death penalty should be abolished. Thank you.

LO Speech:

They said that prison workers who take part in executions suffer stress, so the death penalty should be eliminated. However, instead of abolishing a punishment that the Constitution endorses, we should find ways to effectively deal with executioner stress. Obviously, if the job involves carrying out executions on a daily basis, without relief or counseling, the executioner is going to feel bad and probably exhibit PTSD. We can combat that by [**making sure would-be executioners are fully prepared for the job, that they are mentally sound and have a good support system**](A). In addition, we can relieve the stress of dealing with executions day in and day out by rotating the task so the number of executions carried out by a single guard is limited. In this way, executioner stress is reduced and the ultimate penalty can remain a legal option for the worst crimes.



Description of the logic pattern

[PM]
{"death penalty" is negative}
because

{"death penalty" promote "executioner's suffering" (which is bad)}

[LO]
{"death penalty" is not negative}
because

{"death penalty" promote "executioner's suffering" (which is bad)}
can be mitigated by the rationale/condition
"making sure would-be executioners are fully prepared for the job, that they are mentally sound and have a good support system"

[Attack]
[{"death penalty" promote "executioner's suffering" (which is bad)} can be mitigated by the rationale/condition "making sure would-be executioners are fully prepared for the job, that they are mentally sound and have a good support system"]
limit PM's supporting argument
{"death penalty" promotes "executioner's suffering" (which is bad)}.

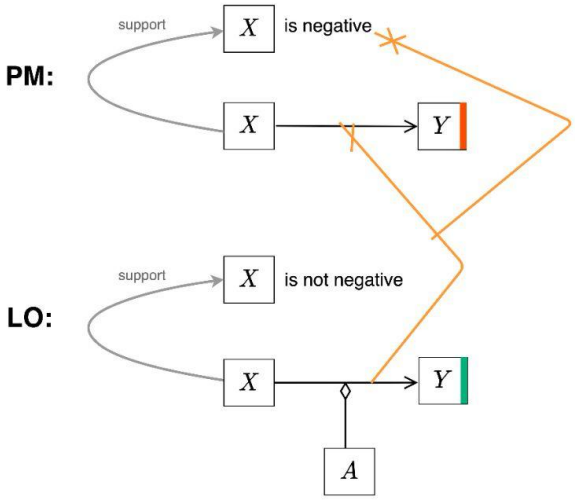
How to read the logic pattern:

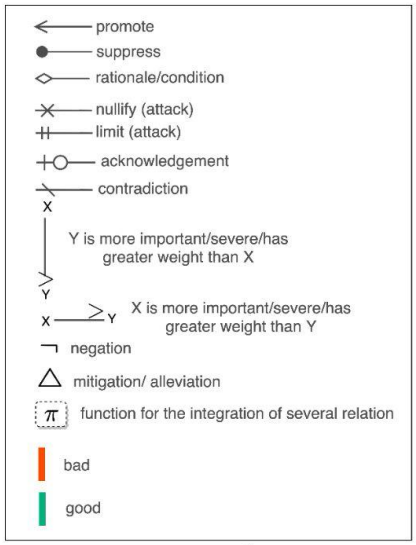
- **PM:**
  - {"X" is negative because "X" promotes "Y" which is bad}
  - "death penalty" is negative because "death penalty" promotes "executioner's suffering" which is bad ("executioner's suffering" is bad).
- **LO:**
  - {"X" is not negative because "X" promoting "Y" can be mitigated by the condition "A"}
  - "death penalty" is not negative because "death penalty" promoting "executioner's suffering" (which is bad) can be mitigated by the condition "making sure would-be executioners are fully prepared for the job, that they are mentally sound and have a good support system".
- **Attack (yellow colored relation in the logic graph):**
  - ("death penalty" promoting "executioner's suffering" (which is bad) can be mitigated by the condition "making sure would-be executioners are fully prepared for the job, that they are mentally sound and have a good support system") limits the probability of the occurrence of ("death penalty" promotes "executioner's suffering" which is bad).

Example 6:

PM Speech:
Hello everyone. Today, we are given the motion that **[homework]**(X) should be abolished. We defined that homework for primary students should be abolished. We have two points: First, some students tend to dislike studying. Secondly, we have more effective learning ways than homework. Let me explain our first argument. Some students tend to dislike studying but are obliged to do homework and most of students are not enthusiastic about homework. Studying, in fact, is not something to be obliged but rather for satisfying intellectual curiosity. Imagine one-year old babies. They are always looking around, crawling from corner to corner, and touching, even biting, everything unfamiliar to them. In this way, they learn new things and expand their understanding of the world. That's how studying should be. It's not good for students to be **[obliged to study by their teachers or parents]**(Y). Being obliged will lead to problems between family. That's one of the reasons some students tend to dislike studying. That is why homework should be abolished. Thank you.

LO Speech:
They said that studying should not be obligated by teachers and parents. They said an example of a baby. However, it is not true. This is because babies are also obligated to do many things by parents . For example parents force babies to remember a lot of words, walk alone, eat like or dislike and so on. This is because babies do not know what is good or bad. Therefore parents support by forcing. As same as **[children also do not know what is useful in the future.]**(A) So in order to get new things, children should be obligated by parents or teacher.





Description of the logic pattern

[PM]
{"homework" is negative}
because

{"homework" promote "obliged to study by their teachers and parents" (which is bad)}

[LO]
{"homework" is not negative}
because

{"homework" promote "obliged to study by their teachers and parents" (which is good)
given the rationale/condition that
"children also do not know what is useful in the future"

[Attack]
[{"homework" promote "obliged to study by their teachers and parents" (which is good) given the rationale/condition that "children also do not know what is useful in the future"]
contradict PM's supporting argument
{"homework" promote "obliged to study by their teachers and parents" (which is bad)}

[{"homework" promote "obliged to study by their teachers and parents" (which is good) given the rationale/condition that "children also do not know what is useful in the future"] contradict PM's supporting argument {"homework" promote "obliged to study by their teachers and parents" (which is bad)}]
nullify PM's main argument
{"homework" is negative}

How to read the logic pattern:

- **PM:**
  - {"X" is negative because "X" promotes "Y" which is bad}
  - "Homework" is negative because "homework" promotes "obliged to study by their teachers and parents" which is bad ("obliged to study by their teachers and parents" is bad).
- **LO:**
  - {"X" is not negative because "X" promote "Y" which is good given the reason "A"}
  - "homework" is not negative because "homework" promote "obliged to study by their teachers and parents" which is good given the reason that "children also do not know what is useful in the future".
- **Attack (yellow colored relation in the logic graph):**
  - ("homework" promote "obliged to study by their teachers and parents" which is good given the reason that "children also do not know what is useful in the future") is a contradiction to the statement that ("homework" promotes "obliged to study by their teachers and parents" which is bad).
  - and this contradiction nullifies the fact that ("Homework" is negative)

Detailed description of some of the relations/symbols & when/how to use them:

(3) Good/Bad labels:

- We generally don't use these labels for the "cause" (i.e., "X" in {X promotes Y}) of promote/suppress relation because the sentiment behind this "cause" is generally given in the main argument (e.g., {"X" is negative/ "homework" is negative}).
- Please note that there is no need to use these labels for "rationale/condition" relation.

(6) Acknowledgement:

- Use Acknowledgement if it is explicitly stated in the LO speech (i.e., if LO is explicitly agreeing with any part of the PM speech by saying, "it is true", "it might be true", "While I agree....", "it is not entirely invalid" etc.)
    - Always use Acknowledgement in cases like {"X" is more important/severe/has greater weight than "Y"} or vice-versa where "X" and "Y" indicates the "cause" and "consequence" of a promote/suppress relation. (Always use acknowledgement when "greater than" sign is used between X-Y, not (PM's X-Y)-(LO's X-Y), regardless of implicitly or explicitly stated in the speech)
        - {"X" is more important/severe/has greater weight than "Y"} implicitly indicates that writer is agreeing with the logic {X suppress Y which is good} but still disagrees with the fact that {X is negative}
        - See "Example 4" in the above
- Exceptional case (i.e., during the use of "function") where Acknowledgement might be implicit but we want to show it: Sometimes when the PM says something like {X promotes Y which is good}, LO attacks the argument saying {X promotes Y which is good, then again Y promotes Z which is bad}. In these cases when you use the function, please use the Acknowledgement relation. (please note that the first half of the function might not be explicit in the text)

(7) Negation:

- When Negation is used to negate X-Y relation, it generally attacks the supporting argument, not the main argument.
    - e.g., PM's supporting argument is: {"death penalty" promote "brutalization of modern society"} and LO says {"death penalty" doesn't promote "brutalization of modern society"}, means that LO is attacking the supporting argument.
- Before using two negation signs within one logic relation, check if "no X doesn't promote = X promotes". If it's true, avoid using double negation in order not to complicate the text form of the relation. Exceptionally, if the PM argument already contains negation and LO negates it, use double negation even if "no X doesn't promote = X promotes" is true, again in order for comprehensibility of the text form.
- Try not to use the negation sign in condition/rationale to negate LO's statement (like "¬A") because such a symbol cannot be turned into a text form. If you cannot find the appropriate span, mark it as "not applicable".

(8) Mitigation/alleviation:

- Mitigation is one type of negation. So if PM's supporting argument is {X promotes Y} and LO says {X promotes Y can be mitigated by A} then that means LO is attacking the supporting argument, not the main argument.
- During mitigation/alleviation LO generally attacks the supporting argument (doesn't nullify the supporting argument but limits the probability of it happening), not the main argument. Hence, no acknowledgement is necessary

(9) Contradiction:

- Remember that {"homework" doesn't suppress "free time"} is not considered as a contradiction to {"homework" suppress "free time"}, it's considered as a negation relation.
- When the LO's argument is a pure negation of PM's argument (promote vs. doesn't promote, or X promotes vs. no X promotes, etc.), no need to use "contradiction" (since the LO's argument is already showing that it contradicts PM's argument), however when the arguments contradicts like promote vs. suppress, we must use "contradiction".
- Some general cases of contradiction:
    - Case 1:

        - PM: {X suppress Y which is good}
        - LO: {X promote Y which is good}
    - Case 2:
        - PM: {X promote Y where Y is good}
        - LO: {X promote Y where Y is bad}
    - Case 3 (special case):
        - PM: {X promote Y where Y is bad}
        - LO: {X promote A where A is good}
        - and "Y" and "A" is contradictory/opposite thing in real life
        - e.g., {homework promotes "problems between family"} vs {homework promotes "opportunity to communicate between family"}
        - Note: When Y and A are not contradictory/opposite, simply use the "greater than" sign to show the comparison (but please double check to see if it is the right expression to represent the logic of the debate).

- Generally, when we use "contradiction", we are contradicting the supporting argument of LO with the supporting argument of PM and the "nullify" (attack) relation will be towards the main argument (starting from the contradiction).
    - However, for Case 3 (special case), the "nullify" (attack) relation will be towards the supporting argument of the PM (starting from the contradiction). It means that the LO's supporting argument contradicts and negates the PM's supporting argument at the same time. Although "contradiction" already expresses some sort of negation, in this case, we want to make it explicit and show that LO negates PM's supporting argument.

(10) "is more important/severe/has greater weight" relation:

- (1) some promote/suppress relation has greater weight/value than another promote/suppress relation and
    - This pattern is generally used during "Attack"
- (2) "cause" of a promote/suppress relation has greater weight/value than its "consequence" and vice versa.
    - This pattern is generally used to represent the "supporting argument of LO"

(5/12) “Nullify/ Limit (Attack)” relation:

- when we "nullify" or "limit" the "supporting argument" of PM, it already means that this "nullify" or "limit" relation also "nullify" or attack the "main argument" of PM (which is implicit and deductive reasoning).
- However, at least for now we will ignore these types of deductive reasoning. So, when we use "limit" towards the PM's supporting argument, we don't need to have a nullification sign towards the PM's main argument.
- Think of "nullify" and "limit" as an "attack" and this LO speech is "directly" attacking the supporting argument, not the main argument. Capturing this "direct attack" is good for now.

Annotation Guideline

Categories of the logic patterns:

Argument patterns

Causal relationship

- promote
- suppress
- function: causal relationship among 3/more text spans

Logical reasoning

- condition/rationale: support with reason

Comparison

- is more important/severe/has greater weight than

Denial

- negation: full negation

- mitigation: partial negation

Attacking patterns

Agreement

- acknowledgement: agreeing with part of the arguments

Comparison

- is more important/severe/has greater weight than

Denial

- contradiction: opposite statement
- nullify: fully negating PM's argument
- limit: acknowledging and negating PM's argument at the same time (used with "mitigation")

Duo (2 relations generally used together for attacking)

- acknowledgement + nullify
- is more important/severe/has greater weight than + nullify
- contradiction + nullify

Note

All the attacking relations should be attached to the middle of a causal relation/another attacking relation (never attach it to a single variable (e.g., `X', `Y', `A'..... etc.)).

Sentiment

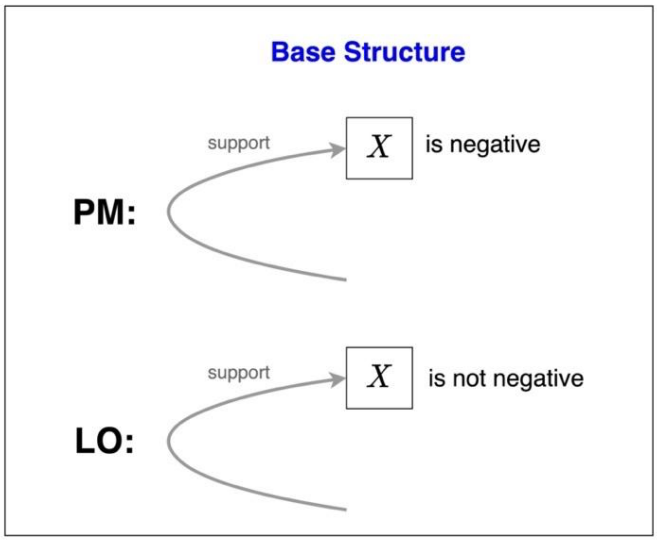
- good
- bad

Prioritization of the logic patterns:

- "rationale/condition" over "function"
- "negation" over "mitigation" (when you are not sure)

- prioritizing relation that doesn't contain any negation (except for the situations where you try to match LO pattern with PM's)
    - if (promote == doesn't suppress), use "promote"
    - if (suppress == doesn't promote), use "suppress"
- "nullify (attack)" over "limit (attack)"

Base structure of logic patterns:



Topic: "Homework should be abolished"

$$X = \text{“}homework\text{”}$$

Topic: "death penalty should be abolished"

$$X = \text{“}death\ penalty\text{”}$$

Basic annotation flow:

1) Read PM speech
2) Read LO speech
3) Summarize in one/two lines what LO is trying to say

4) Figure out which part/point of the PM speech is attacked by that LO summarization
5) Draw a diagram
6) Check readability of the logic pattern by turning it into a text form

Step by step guideline:

Step 1 (basic flow 1,2&3): Please read the PM and LO speech thoroughly and try to understand the arguments

Step 2 (basic flow 4): Think about which logic of PM speech is attacked by LO speech.

- For example, if you look at "Example 1" given above, you will see that instead of attacking any particular point/statement of PM speech, the LO speech show some disadvantages of abolishing homework
  - ➢ it means that that LO speech is attacking the main Claim of PM speech i.e., "homework is negative"
- if you look at "Example 2" given above, you will see that the LO speech is attacking the point/statement "if homework were to be abolished, we can enjoy more free time" of PM speech
  - ➢ this attacking point/statement is explicitly indicated by the first line of LO speech
- **Important:** Remember that sometimes the logic/point/statement of PM speech which is attacked by LO speech is clearly/explicitly mentioned in the 1st line of LO speech and sometimes it's not mentioned clearly, hence it's very important to read the LO speech carefully.

Step 3 (basic flow 5): After realizing which point of PM speech is attacked by LO speech, start drawing the logic pattern of PM speech

- After drawing the base structure (given above), draw the supporting statement for PM speech. Please think which promote/suppress relation in PM speech the LO speech is attacking and draw that (See Example 2, 3, 4, 5, 6).

- **Important**: when choosing the text span for variables Y/Z/A etc. please try to choose the smaller text span/phrase which makes sense during reading the logic pattern (but the text span can be long up to 2 small sentences/1 compound sentence). Within 2 small sentences or 1 compound sentence, try to include as much information as possible so that the span and logic make more sense when read without the whole text/debates.
  - ➢ for instance, in "Example 4" given above, we have chosen "do more of what we really wanted like club activities, hobbies, or playing with friends" as a text span for variable "**Y**". We didn't choose the full sentence i.e., "we could do more of what we really wanted like club activities, hobbies, or playing with friends" because {"no homework" promotes "do more of what we really wanted like club activities, hobbies, or playing with friends"} is more natural (because grammatically correct sentence is "no homework promotes doing more of what we really wanted….." which is more similar to the latter span than the former) and the text span is also smaller.
  - ➢ However, as for the span for rationale/condition, try to use a complete sentence (focus on readability of logic pattern and having more information).
  - ➢ Try not to choose the span with pronouns unless there are no other options to select a more explainable text span.
  - ➢ When there are two or more text spans with almost the same meaning which can be assigned, choose the one that seems to be most appropriate. As long as they have the same meaning, it's not important to be strict about which one to choose.
  - ➢ If PM logic pattern (promote/suppress) accompanies negation and doesn't match with LO logic pattern, try to rephrase to match with LO logic pattern in order to make the logic patterns more readable when turned into a text form.
  - ➢ (e.g., {PM: X suppresses Y} <- {LO: X doesn't suppress Y} rather than {PM: no X promotes Y} <- {LO: X doesn't suppress Y})
- If none of the statements/promote-suppress relation of PM speech is attacked by LO speech (as shown in Example 1), then the supporting statement of the PM speech would be the main promote/suppress relation in this speech (please see Example 1)

Step 4 (basic flow 5): After having the logic pattern of PM speech, start drawing the supporting statement for LO speech.

- Please remember that we are interested in the main logic/focus of LO speech as well as how it attacks the PM speech and that can be implicit sometimes (Example 4), so please select the relations and text span after reading the LO speech carefully.
  - ➢ in Example 4, {"homework" is more important than "do more of what we really wanted like club activities, hobbies, or playing with friends"} is implicit in the LO speech, but this is actually the main point/focus of LO speech and we would like to represent it.
  - ➢ When LO's speech is written badly and it's difficult to understand their arguments properly, mark it as "unclear"
  - ➢ When there are several points that LO is trying to explain, first search for some text span that can represent those points. If it's not possible to find it:
    - If those points are treated equally in terms of importance, just pick one of them, mark it as "several points", and leave a note for the others.
    - In other cases, try to select the one that seems to be more important and mark it as "vague" and leave a note for the others.
  - ➢ Usually the text spans used in the diagram are 3 (X, Y, A), but if it's necessary, it's OK to use B (e.g. {X promotes A (good) given the reason B} contradicts {X promotes Y (bad)} and nullifies {X is negative}).
  - ➢ Note: please try to match PM speech with LO speech as much as possible (to increase the readability). For instance, in Example (1), we could draw {*PM: "X suppress Y", LO: "no X promote A"*}, However, we have drawn {PM:"no X promote Y", LO:"no X promote A"} to increase the readability

Step 5 (basic flow 5): After having the logic pattern of PM and LO, draw how the LO attack PM speech

- generally the LO speech nullify a point/statement of PM speech
  - ➢ note that during attack, sometimes nullification happens by giving more weight/value on one statement than the other (as shown in Example 1) or having contradictory statement (as shown in Example 6)

➢ also note that sometimes LO speech attack the main claim of PM speech but Acknowledge the supporting statement of PM speech (shown in Example 4)

Step 6 (basic flow 5): Please read the PM and LO speech again and check if the logic you have drawn makes sense, if not, try to adjust accordingly.

Step 7 (basic flow 5): If the logic of attack can't be represented based on the relations given, please mark it as "Not applicable" and also please mark the problem why it can't be represented and then leave it and move on.

*Non-obvious logic patterns:

- For "rationale/condition vs. function", try not to use "function" unless it is obvious that the arguments cannot be expressed using "rationale/condition". In other words, prioritize "rationale/condition" over "function".
- Draw what seems to be correct and mark as "vague" (it's not important to strictly distinguish between the followings)
  - promote vs. doesn't suppress
  - suppress vs. doesn't promote
  - negation vs. mitigation

*Box coloring to indicate whether it's good or bad:

- For "rationale/condition", there is no need to color the boxes for good/bad.

How to transform logic pattern into a text form (basic flow 6):

✡ Base text form

Base Text Pattern

[PM]
{" " is negative}
because

[LO]
{" " is not negative}
because

[Attack]

Topic: "Homework should be abolished"

PM: "Homework" is negative

LO: "Homework" is not negative

Topic: "Death penalty should be abolished"

PM: "Death penalty" is negative

LO: "Death penalty" is not negative

✡ Basic text form writing flow

1) Write PM pattern
2) Write LO pattern
3) Write how LO attacks PM

✡ Text form Writing guideline

Please read the "description of the logic pattern" section of the Examples given in this guideline. You will be able to see how to transform and write the text form of the overall logic pattern and each relation/symbol.

Remember that you should write the text form the same way you read the logic pattern

Instructions:

- Some of the relations/symbols are presented the same as their names when we write the text form while some of them will have small change/complete change and then

we might add some words/phrases so that when we read the text form separately, it makes sense.

- **promote → promote [same]**
- **suppress → suppress [same]**
- **bad/good → bad/good [same]**
  - should add some words and parentheses so that the text form makes sense
  - i.e., (which is bad/good)
  - e.g., {“no homework” promote “free time” (which is good)}
- **is more important/severe/has greater weight than → is more important/severe/has greater weight than [same]**
- **rationale/condition → rationale/condition [same]**
  - should add some words so that the text form is more clear
  - i.e., by the rationale/condition (during mitigation) or given the rationale/condition that (during negation and other relations)
  - e.g., {"death penalty" promote "executioner's suffering" (which is bad)} can be mitigated by the rationale/condition "making sure would-be executioners are fully prepared for the job, that they are mentally sound and have a good support system"
  - e.g., {"death penalty" doesn't promote "criminal has no chance to reflect on what they have done" (which is bad)} given the rationale/condition that "sitting on death row actually provides a nearly perfect setting for reflecting on the actions that led the inmate to this fate"
  - E.g., {"homework" promote "be obliged to study by their teachers or parents" (which is good given the rationale/condition that "If you only do what you like, you will lack or be biased of your knowledge")}
- **nullify → nullify [same]**
  - should add some words (about which argument of PM is nullified) so that the text form is more clear
  - i.e., nullify PM’s supporting/main argument
  - e.g., [{"no homework" promote "a number of people who repeat years" (which is bad)} is more important/severe/has greater weight than {"no

homework" promote "free time" (which is good)}] nullify PM's main argument {"homework" is negative}

- **limit → limit [same]**
  - should add some words (about which argument of PM is limited) so that the text form is more clear
  - i.e., limit PM's supporting/main argument
  - e.g., [{"death penalty" promote "executioner's suffering" (which is bad)} can be mitigated by the rationale/condition "making sure would-be executioners are fully prepared for the job, that they are mentally sound and have a good support system"] limit PM's supporting argument {"death penalty" promote "executioner's suffering" (which is bad)}.

- **acknowledgement → acknowledge [small change]**
  - should add some words (about which argument of PM is acknowledged)
  - "acknowledgement" will generally take place with "nullify" or "limit". So we need to add some extra words for conjunction and readability
  - i.e., and at the same time acknowledge PM's supporting/main argument
  - e.g., [{"homework" is more important/severe/has greater weight than "do more of what we really wanted like club activities, hobbies, or playing with friends" (which is good)} given the rationale/condition that "homework is part of education"] nullify PM's main argument {"homework" is negative} and at the same time acknowledge PM's supporting argument {"no homework" promote "do more of what we really wanted like club activities, hobbies, or playing with friends" (which is good)}
- **contradiction → contradict [small change]**
  - should add some words (about which argument of PM is contradictory~~acknowledges~~)
  - i.e., contradict PM's supporting/main argument
  - e.g., [{"homework" promote "obliged to study by their teachers and parents" (which is good) given the rationale/condition that "children

also do not know what is useful in the future"] contradict PM's supporting argument {"homework" promote "obliged to study by their teachers and parents" (which is bad)}

- **mitigation/alleviation → mitigated/alleviated [small change]**
  - should add some words so that the text form makes sense
  - i.e., can be mitigated/alleviated
  - e.g., {"death penalty" promote "executioner's suffering" (which is bad)} can be mitigated/alleviated by the rationale/condition "making sure would-be executioners are fully prepared for the job, that they are mentally sound and have a good support system"
- **negation → "don't" or "no" [complete change]**
  - don't should be written when this symbol is used to negate a relation
  - e.g., {"death penalty" don't promote "criminal has no chance to reflect on what they have done" (which is bad)}
  - no should be written when this symbol is used before a variable X/Y etc.
  - e.g., {"no homework" promote "free time" (which is good)}
- **function (π) → "and" [complete change]**
  - all promote/suppress relations merged by the function symbol should be written independently and then should be merged by and
  - e.g., ({"no homework" promote "take time to catch up with classes" (which is bad)} and {"take time to catch up with classes" suppress "free time"}

- When you start writing the text form of the logic pattern, first fill in the "base text pattern" with the appropriate text span (e.g., "homework" or "death penalty")
- Then write the "supporting argument of PM" and then "supporting argument of LO"
  - use second bracket ({}) to represent promote/suppress relation
  - Replace variables X, Y, A etc. with their text span while writing
  - use double quotation (" ") to represent the text spans
  - Please see the Examples given
- The "supporting argument of LO" will attack the "supporting argument of PM" or the "main argument of PM" or both. So, after writing the logic pattern of PM and LO,

when you write the pattern for “Attack” you can just copy and paste “supporting argument of LO”/“supporting argument of PM”/“main argument of PM” that you have already written.

- Sometimes LO/PM text might need to be represented in a third bracket ([]) during attack (when several relations/symbols are used)
- e.g., [{"death penalty" promote "executioner's suffering" (which is bad)} can be mitigated by the rationale/condition "making sure would-be executioners are fully prepared for the job, that they are mentally sound and have a good support system"] limit PM's supporting argument {"death penalty" promotes "executioner's suffering" (which is bad)}.

Other Important facts

★ You can draw the logic graphs at diagrams.net

★ please load the text-plugin in diagrams.net before you start the annotation It will help us to extract text from the diagram (which is important). You can find the installation procedure in this link below

- https://www.diagrams.net/doc/faq/text-plugin