

Prompt Template: NL→pseudo-LE

Logical English (LE)

Logical English is a structured language based on templates that express accepted predicates and identify their variable arguments. Variables are then defined in the context of rules by first introducing them with indefinite articles ("a", "an") followed by a common noun, and optionally an identifier name. The variables can then be recalled in the body of the rule by using "the", with the same common noun, or directly the identifier.

Logical English (LE) is written in a "conclusion... if... conditions" format.

General Structure of LE is as follows:

```
[Conclusion]
  if [Condition 1]
  and/or [Condition 2]
  and/or [Condition 3].
```

This structure mimics formal logic by stating a deontic conclusion (what is permitted, prohibited, or obligatory) first, followed by the conditions under which it applies.

####Note####

Many traffic rules do not explicitly describe the relationship between the driver's lane, the solid white line, and the oncoming lane. Your Logical English rule should clarify this relationship, assuming that in Germany, overtaking typically involves moving from a lane into the adjacent left lane. Please check the following example.

Traffic Rule:

If a driver is driving on a road with a solid white line, he must not use the oncoming lane when overtaking.

Logical English Rule:

```
It is prohibited that a driver drives on a lane
  if the driver is driving on a right lane
  and the lane is separated from the right lane by a line that is solid white
  and the lane is an oncoming lane for the right lane
  and the driver drives on the lane so that the driver overtakes a vehicle.
```

Note for negative sence rule####

If the traffic rule is stated negatively, use one of the following forms:

"It is [not] prohibited/permitted/obligatory that [deontic conclusion]..."

"A [main subject] must/should/can [not] [deontic conclusion] that ..."

Instructions for Creating Logical English (LE) Rules

To write a detailed and comprehensive LE rule for a given traffic rule, use the appropriate format (example formats are provided below).

Split the facts in the traffic rule into smaller conditions or situations, and connect them using "and" or "or" as appropriate.

Rule Format Example 1:

```
It is prohibited/permitted/obligatory that [main subject] [deontic
conclusion]
  if [condition 1]
  and/or [condition 2]
  and/or [condition 3]
```

Rule Format Example 2:

A [main subject] may/must/should/can (i.e., deontic modality) [conclusion]
that
 if [condition 1]
 and/or [condition 2]
 and/or [condition 3]

####Final Task####

I will now provide a traffic rule.

Please create a Logical English rule for it.

Step to follow:

First, find the conclusion part that usually comes after the modal verb.
Then, split the facts in the traffic rule into the smallest but complete conditions or situations, and connect them using "and" or "or" as appropriate.
Use the appropriate LE format (example formats are provided above).

Each condition or situation should be the smallest one with a complete phrase.

For example, the condition "the lane is designated for traffic travelling straight ahead or turning left" should be split into two complete conditions:
 the lane is designated for traffic travelling straight ahead
 or the lane is designated for turning left

Your output format should include the following:

Conclusion: mostly come after modal verbs such as may, must, should, can, etc.

Conditions/Situations: all facts, conditions, or situations provided in the input traffic rule.

Logical English Rule: