**LTLInputOutput**

*This routine reads in a text file, parses through it, and for each section it reads, calls the method to generate the LTL, and writes it to the output file.*

open the file

until reading the end of the file

read in 7 lines to get the 6 lines of input per LTL Template

set the scope, pattern, and 4 CP variables

discard the 7th line

call the method to generate the LTL output passing the 6 variables

write LTL formula output to the output file

*This routine checks to see if the given output file exists and creates it if it doesn’t.*

read in the argument for the output file

if the file does not exist

create file

*This routine writes the LTL formula to the output file.*

in the existing output file

write the 6 lines of input and one blank line

write the generated LTL formula

**LTLTemplateFactory**

*This routine instantiates the proper template class and updates the object’s LTL Template if needed*

given a specific name, instantiate the correct LTL Template class.

if this object’s LTL Template depends on another template

instantiate the other template

replace the necessary part of the first object’s LTL template with the LTL template of the second object.

return correct LTL Template object

**CPGenerator**

*This routine generates the LTL Formula for a CP given the CP name, number of propositions, and the letter of the propositions*

choose the correct LTL formula from CP name

from 1 to the number of propositions

generate the LTL formula

replace the letter in the CP with the latter passed in

return the LTL formula