

1. Installation and running

The demo executable file is named `m8_executable.exe`.

The file `meth8_parameter_file.txt` is required to be in the same directory as the demo executable to instruct the demo which logic system to use. The default for the demo is “VL4”.

The input file for equations is named `METH8_INPUT_FILE.txt`. The format of an equation to test ends in a semi-colon as the terminating character, otherwise an exception is raised.

2. Usage tips with parsing anomalies

If an expression is well formed, sometimes it parses with an exception raised. This results from pairs of operators preceding variables only and not expressions. If this happens, we suggest a work around by embedding the expression as an antecedent (or consequent) with a connective to tautology such as " $p=p$ ". T tautology is the designated proof value, F contradiction, N for truthity, and C for falsity.

The resulting truth table of 16-values is presented horizontally as row-major. We found these examples with work arounds.

2.1. $\#(\sim(\% \sim p > \sim \% r)) > \#(\sim(\# r > \% p)) ;$ `ngp` (not good parse)
 $\#(\sim(\% \sim p > \sim \% r) > \sim(\# r > \% p)) = (p=p) ;$ then extract the truth table for the antecedent as: `NNNN NNNN NNNN NNNN`

2.2. $\# \sim(\% \sim p > \sim \% r) > \# \sim(\# r > \% p) ;$ `ngp`
 $\#(\sim(\% \sim p > \sim \% r) > \sim(\# r > \% p)) = (p=p) ;$ then extract the truth table for the antecedent as: `NNNN NNNN NNNN NNNN`

2.3. $(\sim(\#(\% \sim p > \sim \% r))) > (\sim(\#(\# r > \% p)))$; ngp
 $(\sim(\#(\% \sim p > \sim \% r) > \#(\# r > \% p))) = (p = p)$; then extract the truth table for the antecedent as: FFFF FFFF FFFF FFFF

2.4. $\sim(\#(\% \sim p > \sim \% r)) > \sim(\#(\# r > \% p))$; ngp
 $\sim(\#(\% \sim p > \sim \% r) > \#(\# r > \% p)) = (p = p)$; then extract the truth table for the antecedent as: FFFF FFFF FFFF FFFF

2.5. $\sim \#(\% \sim p > \sim \% r) > \sim \#(\# r > \% p)$; ngp
 $\sim(\#(\% \sim p > \sim \% r) > \#(\# r > \% p)) = (p = p)$; then extract the truth table for the antecedent as: FFFF FFFF FFFF FFFF

2.6. $\#(\% \sim p > \sim \% r) > \#(\# r > \% p)$; validated as tautologous: TTTT TTTT TTTT TTTT
 $\#((\% \sim p > \sim \% r) > (\# r > \% p)) = (p = p)$; however, *not* distributing the quantifier produces: NNNN NNNN NNNN NNNN

3. Support

We are available for questions from 9 AM – 5 PM MT on M-F at (719) 210-9534 or by email at info@ersatz-systems.com.