The answer should be an executable program. Package the program source files in a ZIP file with instructions for extracting, compiling, and executing the source code. Please code this in Java.

1. Build a logical expression calculator. The case sensitive keywords are:

NOT, TRUE, FALSE, AND, OR, parentheses and the period

Whitespace serves to separate alphabetic keywords. The AND operator should bind more tightly than OR. NOT is the tightest binding. A statement is terminated with a period. Parentheses allow one to overrule that precedence, such that:

FALSE OR TRUE AND FALSE OR NOT TRUE.

*is equivalent to*

FALSE OR (TRUE AND FALSE) OR NOT TRUE.

Take one expression from stdin and print the result TRUE or FALSE to stdout.

Feel free but not required to use any lexical analyzer or parser generator tools appropriate to your chosen language. Bad input syntax should terminate the parsing with appropriate stderr. What happens after the attempted evaluation of the first read expression is unimportant.