

Calculator Manual – Cheat Sheet

RESUME

The **lex** commands generates a lexical analyzer program that analyzes input and breaks it into tokens, such as numbers, letters, or operators. The tokens are defined by grammar rules set up in the **lex** specification.

The **yacc** generates a parser that analyzes input using the tokens identified by the lexical analyzer and performs specified actions, such as flagging improper syntax. Together these commands generate a lexical analyzer and parser program for interpreting input and output handling.

Basic Operations

expression : expression PLUS expression
 | expression MINUS expression
 | expression TIMES expression
 | expression DIVIDE expression

SUMA $1 + 1$
RESTA $1 - 1$
MULTIPLICACION $1 * 1$
DIVISION $1 / 1$

MOD

expression : expression MOD expression

MOD OF $2 \% 2$

POWER

expression : expression POW expression

POWER OF $2 \wedge 2$

FUNCTIONS

expression :

FUNCTION LPAREN expression RPAREN

SINE $\text{sen}(1)$
COSINE $\text{cos}(1)$
TANGENT $\text{tan}(1)$
INVERSE TANGENT $\text{invtan}(1)$
INVERSE SINE $\text{invsen}(1)$
INVERSE COSINE $\text{invcos}(1)$
HIPERBOLIC TANGENT $\text{tanh}(1)$
HIPERBOLIC COSINE $\text{cosh}(1)$
HIPERBOLIC SINE $\text{senh}(1)$
INVERSE HIPERBOLIC SINE $\text{asenh}(1)$
INVERSE HIPERBOLIC COSINE $\text{acosh}(1)$
INVERSE HIPERBOLIC TANGENT . $\text{atanh}(1)$
LOGARITM BASE 10 $\text{log10}(1)$
LOGARITM BASE 2 $\text{log2}(1)$
SQUARE ROOT $\text{sqrt}(1)$
NATURAL LOGARITM $\ln(1) \mid \text{nlog}(1)$

SET OPERATIONS

DEFINE A SET $A=\{1,2,3\}$
DEFINE A SET $B=\{3,4,5\}$
UNIVERSE **just type UNI** $\{1,2,3,4,5\}$
INTERSECTION $A \cap B$
..... $\{3\}$
UNION $A \cup B$
..... $\{1,2,3,4,5\}$
SYMMETRIC DIFFERENCE $A \oplus B$
..... $\{1,2,4,5\}$
DIFFERENCE $A \setminus B$
..... $\{1,2\}$
COMPLEMENT A'
..... $\{4,5\}$
EMPTY SET \emptyset
..... $\{\emptyset\}$

Important files

have a python3 version
install ply package with \$pip install ply

Links and information

<https://www.dabeaz.com/ply/>
<https://www.dabeaz.com/ply/ply.html>

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