

Group Name: Language Impact	Section: ST-6L
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LOLCODE GRAMMAR

Use angle brackets (<,>) to denote abstractions. Type lexemes that have been defined in Project Requirement 01 using lowercase letters. If the lexemes have not yet been defined, add the newly defined lexemes at the last section of this document.

LHS	::=	RHS
<program>	::=	HAI <linebreak> <statement_list> <linebreak> KTHXBYE
<statement>	::=	<print> <assignment> <conditional> <switch> <input> <declaration> <loop> <function> <function_call> <return> <exit> <comment> <mutation> <typecast> <exception_handling>
<statement_list>	::=	<statement> <statement> <linebreak> <statement_list>
<print>	::=	VISIABLE varident VISIABLE <expr> VISIABLE <literal> VISIABLE <print_args> [!]
<print_args>	::=	<expr> <expr> <print_args>
<input>	::=	GIMMEH varident
<literal>	::=	numbr numbar yarn troof
<data_type>	::=	NUMBR NUMBAR YARN TROOF BUKKIT NOOB
<declaration>	::=	I HAS A varident I HAS A varident ITZ <expr>
<initializer>	::=	<literal> <expr> A <data_type>
<assignment>	::=	varident R <expr>
<conditional>	::=	O RLY? <linebreak> YA RLY <linebreak> <block> [<linebreak> MEBBE <expr> <linebreak> <block>] [<linebreak> NO WAI <linebreak> <block>] <linebreak> OIC
<loop>	::=	IM IN YR loopident [UPPIN NERFIN] YR varident TIL <expr> <linebreak> <block> <linebreak> IM OUTTA YR loopident
<switch>	::=	<expr> <linebreak> WTF? <linebreak> [OMG <literal> <linebreak> <statement> [<linebreak> GTFO <linebreak>]] + [OMGWTF <linebreak> <statement>] <linebreak> OIC
<typecast>	::=	MAEK <expr> A type
<mutation>	::=	varident IS NOW A type
<comparison>	::=	BOTH SAEM <expr> AN <expr> DIFFRINT <expr> AN <expr>
<comparison_op>	::=	BOTH SAEM DIFFRINT

<comment>	::=	BTW <literal> OBTW <linebreak> <literal> <linebreak> TLDR
<function>	::=	HOW IZ I funcident [YR varident]* <linebreak> <block> <linebreak> IF U SAY SO
<function_call>	::=	I IZ funcident [YR <expr>]* MKAY
<return>	::=	FOUND YR <expr>
<linebreak>	::=	\n \r\n
<exit>	::=	GTF0
<expr>	::=	<literal> varident <comparison> <function_call> <operation> <smoosh>
<expr_list>	::=	<expr> [YR <expr>]*
<operation>	::=	SUM OF <expr> AN <expr> DIFF OF <expr> AN <expr> PRODUKT OF <expr> AN <expr> QUOSHUNT OF <expr> AN <expr> MOD OF <expr> AN <expr> BIGGR OF <expr> AN <expr> SMALLR OF <expr> AN <expr>
<exception_handling>	::=	PLZ <expr>? <linebreak> AWSUM THX <linebreak> <statements> [<linebreak> O NOES <linebreak> <statements>] <linebreak> KTHX
<smoosh>	::=	SMOOSH <expr> [AN <expr>]*
<concatenation>	::=	SMOOSH <expr> [AN <expr>]*
<block>	::=	<statement_list>

NEWLY-ADDED LEXEMES

Put here the definition of the lexemes that have not yet been defined in Project Requirement 01.

LEXEME	Regular Expression
varident	^[A-Za-z][A-Za-z0-9_]*\$
linebreak	^(\r?\n)+\$
loopident	^[A-Za-z][A-Za-z0-9_]*\$
funcident	^[A-Za-z][A-Za-z0-9_]*\$
AWSUM THX	^AWSUM THX\$
O NOES	^O NOES\$
AN	\bAN\b
PLZ	\bPLZ\b
KTHX	\bKTHX\b
INVISIBLE	\bINVISIBLE\b

REFERENCES:

- <https://www.tutorialspoint.com/lolcode/index.htm>