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| --- | --- |
| **Group Name:** | **Section:** |
| **Member 1:** | **Member 3:** |
| **Member 2:** | **Member 4:** |

**LOLCODE GRAMMAR**

Phrases enclosed by angle brackets (<,>) are abstractions. Words in small letters describe the lexemes that are already described by a regular expression (e.g. varident for variable identifiers, yarn for string literals, troof for boolean values, etc).

|  |  |  |
| --- | --- | --- |
| **LHS** | **::=** | **RHS** |
| <program> | ::= | HAI <linebreak> <statement> <linebreak> KTHXBYE |
| <statement> | ::= | <print> |
| <print> | ::= | VISIBLE varident | VISIBLE <expr> | VISIBLE <literal> |
| <literal> | ::= | numbr | numbar | yarn | troof |
| <varcall> | ::= | I HAS A <variable> | I HAS A <variable> ITZ <literal> | I HAS A <variable> ITZ <expression> |
| <comments> | ::= | <statement> BTW <comment> | OBTW <linebreak> <comments> <linebreak> TLDR |
| <arithmeticop> | ::= | SUM OF <arithmeticop> <litvar> AN <litvar> | DIFF OF <arithmeticop> <litvar> AN <litvar> | PRODUKT OF <arithmeticop> <litvar> AN <litvar> | QUOSHUNT OF <arithmeticop> <litvar> AN <litvar> | MOD OF <arithmeticop> <litvar> AN <litvar> | BIGGR OF <arithmeticop> <litvar> AN <litvar> | SMALLR OF <arithmeticop> <litvar> AN <litvar> | SUM OF <litvar> AN <litvar> | DIFF OF <litvar> AN <litvar> | PRODUKT OF <litvar> AN <litvar> | QUOSHUNT OF <litvar> AN <litvar> | MOD OF <litvar> AN <litvar> | BIGGR OF <litvar> AN <litvar> | SMALLR OF <litvar> AN <litvar> |
| <booleanop> | ::= | BOTH OF <litvar> AN <litvar> | EITHER OF <litvar> AN <litvar> | WON OF <litvar> AN <litvar> | NOT <litvar> | ALL OF <boolean> AN <boolean> ...MKAY | ALL OF <litvar> AN <litvar> ...MKAY | ANY OF <booleanclause> ...MKAY | ANY OF <litvar> AN <litvar> ...MKAY |
| <comparisonop> | ::= | BOTH SAEM <litvar> AN <litvar> | DIFFRINT <litvar> AN <litvar> | BOTH SAEM <litvar> AN BIGGR OF <litvar> AN <litvar> | BOTH SAEM <litvar> AN SMALLR OF <litvar> AN <litvar> | DIFFRINT <litvar> AN BIGGR OF <litvar> AN <litvar> | DIFFRINT <litvar> AN SMALLR OF <litvar> AN <litvar> |
| <concatop> | ::= | SMOOSH <anclause> |
| <input> | ::= | GIMMEH <variable> |
| <expression> | ::= | <comparison> | <arithmetic> | <boolean> | <concat> | <assignment> |
| <assignment> | ::= | <variable> R <literal> | <variable> R <variable> | <variable> R <expression> |
| <ifthen> | ::= | <expression><linebreak>O RLY?<linebreak> YA RLY<linebreak><statement><linebreak> NO WAI<linebreak><statement><linebreak> OIC |
| <switchcase> | ::= | WTF? <linebreak><omgclause> OIC| WTF? <linebreak><omgclause> OMGWTF <linebreak><statement> OIC |
| <anclause> | ::= | <literal> AN <literal> | <anclause><anclause> |
| <booleanclause> | ::= | <boolean> AN <boolean> | <boolean><boolean> AN <boolean><boolean> |
| <loops> | ::= | IM IN YR <label> <loopop> YR <variable> <testexpression><linebreak><statement><linebreak> IM OUTTA YR <label> |
| <omgclause> | ::= | OMG <literal><linebreak><statement> | <omgclause><omgclause> |
| <testexpression> | ::= | TIL <expression> | WILE <expression> |
| <loopop> | ::= | UPPIN | NERFIN |
| <litvar> | ::= | <literal> | <variable> |
| <troof> | ::= | WIN | FAIL |