Grammar for the Itty-Bitty Teaching Language

S -> **( )** | **(***S***)** | *SS* | *expr*

expr -> *oper* | *stmts*

oper -> **(:=** *name oper***)** | **(***binops oper oper***)** |

       (*unops oper***)** | *constants* | *name*

binops -> **+** | **-** | ***** | **/** | **%** | **^** | **=** | **>** | **>=** | **<** | **<=** |

      != | **or** | **and**

unops -> **-** | **not** | **sin** | **cos** | **tan**

constants -> *strings* | *ints* | *floats*

strings -> **reg_ex for str literal in C** ("any alpha-numeric") | **true** | **false**

name -> **reg_ex for ids in C** (any lower and upper char or underscore followed by any combination of lower, upper, digits, or underscores)

ints -> **reg ex for positive/negative ints in C**

floats -> **reg ex for positive/negative doubles in C**

stmts -> *ifstmts* | *whilestmts* | *letstmts* | *printsmts*

printstmts -> **(stdout** *oper***)**

ifstmts -> **(if** *expr expr expr***)** | **(if** *expr expr***)**

whilestmts -> **(while** *expr exprlist***)**

exprlist -> *expr* | *expr exprlist*

letstmts -> **(let (***varlist***))**

varlist -> **(***name type***)** | **(***name type***)** *varlist*

type -> **bool** | **int** | **float** | **string**