main:

entryPoint LPARAN RPARAN LBRACKETS function\_body RBRACKETS ;

function\_body:

stmt

| stmt stmt

;

stmt:

| g\_init

;

g\_init:

g\_type identifier LBRACKETS element\_list RBRACKETS

;

g\_type:

directed

|undirected

element\_list:

element

|element

;

element:

vertex\_declaration end

|edge\_declaration end

|graph\_object\_declaration end

|method\_call end

|assignment end

|condition

|loop

;

vertex\_decleration:

Vertex IDENTIFIER ASSIGNMENT LPARAN assign RPARAN

;

edge\_declaration:

IDENTIFIER DOUBLEDASH IDENTIFIER

| IDENTIFIER DASH\_GREATER IDENTIFIER

;

directed:

IDENTIFIER DOUBLEDASH IDENTIFIER

;

undirected:

IDENTIFIER DASH\_GREATER IDENTIFIER

;

methodcall:

IDENTIFIER DOT method

;

method:

possible\_methods assign

|possible\_methods assign

;

possible\_methods:

FINDPATH

|GETVERTICESSTARTS

|ISVERTEXEXITS

|QUERYPATH

;

assign:

RPARAN EVERYTHING\_EXCEPT\_RPARAN RPARAN

|LPARAN RPARAN

|EVERYTHING\_EXCEPT\_RPARAN RPARAN

;

conditional:

if\_condition

|elseif\_condition

;

if\_condition:

IFSTATEMENT LPRAN IDENTIFIER condition IDENTIFIER RPARAN

;

elseif\_condition:

IFSTATEMENT LPRAN IDENTIFIER condition IDENTIFIER RPARAN

;

condition:

|condition OR condition\_stmt

|condition AND condition\_stmt

|condition

|condition\_stmt

;

condition\_stmt:

NOT condition\_stmt

|BOOLEANEXPR

|IDENTIFIER boolean\_op new

|new boolean\_op IDENTIFIER

;

boolean\_op:

COMPARISON

|GREATER

|LESS

|GREATEREQUAL

|LESSEQUAL

|NOTEQUAL

|EQUAL

;

loops:

for

|while

;

for:

FOR LPRAN IDENTIFIER boolean\_op INTEGER SEMICOLON IDENTIFIER boolean\_op INTEGER SEMICOLON IDENTIFIER RPARAN

;

while:

FOR LPRAN IDENTIFIER condition IDENTIFIER RPARAN

;

map:

MAP IDENTIFIER ASSIGNMENT LBRACKETS map\_body RBRACKETS

;

map\_body:

map\_body map\_tail

|map\_tail

;

map\_tail:

QUOTES IDENTIFIER COLON INTEGER

|QUOTES IDENTIFIER COLON list

;

set:

SET IDENTIFIER ASSIGNMENT SLBRACKETS set\_body SRBRACKETS

;

set\_body:

set\_body set\_tail

|set\_tail

;

set\_tail:

QUOTES IDENTIFIER COLON INTEGER

|QUOTES IDENTIFIER COLON LIST

;

list:

SLBRACKET listbody SRBRACKET

;

listbody:

list\_tail list\_tail

|list\_tail

|

;

list\_tail:

INTEGER new

;

new:

DIGIT

|IDENTIFIER

;

end:

SEMICOLON

| ERROR

|RBBRACKETS

;