Trabalho de Compiladores

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13 de Setembro, 2017

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trabalho.l

```
%{

#include <stdio.h>
#include "node.h"
#include "sint.h"

%}
%%

"print" {return TOK_PRINT;}
"linha" {return TOK_LINHA;}
"arco"  {return TOK_ARC;}
"a"     {return TOK_A;}
 /*"+"  {return TOK_PLUS;}
"-"     {return TOK_MINUS;}
"*"     {return TOK_MULTPL;}
"/"     {return TOK_DIVIDE;}*/
"("     {return '(';}
")"     {return ')';}
";"     {return ';'; }
","     {return ','; }

[+-]?[0-9]+         {yylval.nint = atoi(yytext);
                     return TOK_INTEGER;}



[-+]?[0-9]+\.[0-9]+     {yylval.nint = atoi(yytext);
                    return TOK_DOUBLE;}

[ \t\n] {}
```

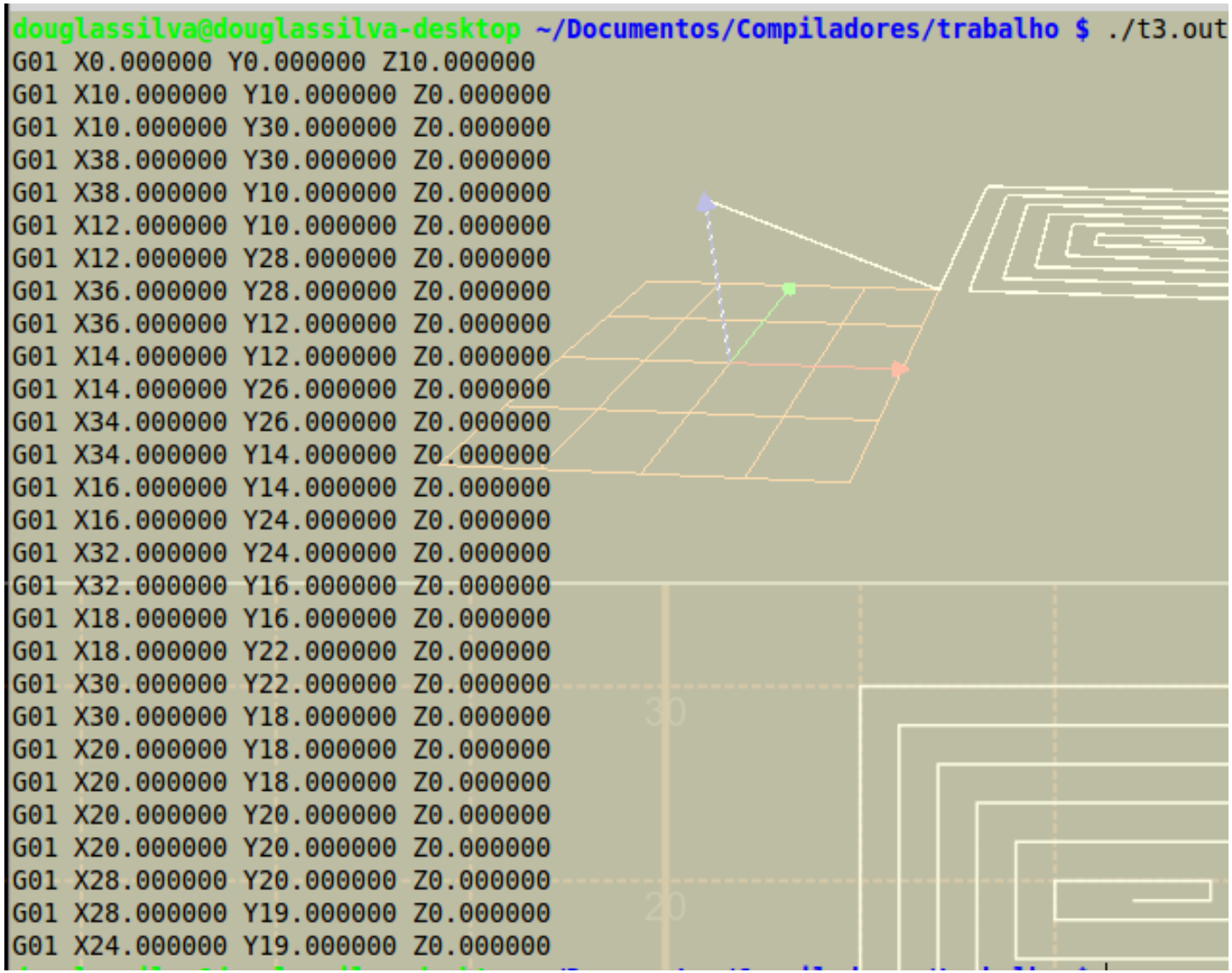
trabalho.y

```
%start programa

%%
programa
        : stmts         { Program p;
                          p.generate($1); }
        ;


stmts
        : stmts stmt            { $$->append($2); }
        | stmt                 { $$ = new Stmts($1); }
        ;

stmt
        : funcao ';'            { $$ = new Stmts($1); }
        | print ';'             { $$ = new Stmts($1); }

print
        : TOK_PRINT funcao          { $$ = new Print($2); }
        ;

funcao
        : TOK_LINHA cord TOK_A TOK_LINHA cord     {
                Stmts *s = new Stmts(new LinearMove($2->getCoordX() , $2->getCoordY(), $2->getCoordZ()));
                s->append(new LinearMove($5->getCoordX() , $5->getCoordY(), $5->getCoordZ()));
                $$ = s;
        }
        | TOK_ARC cord           {
                Stmts *s = new Stmts(new ArcMove($2->getCoordX() , $2->getCoordY(), $2->getCoordZ(), $2->getCoordI(), $2-
>getCoordJ()));
                $$ = s;
        }
        ;

cord
        : '(' number ',' number ',' number ')'       { $$ = new Coord($2 , $4, $6); }
        | '(' number ',' number ',' number ',' number ',' number ')'    { $$ = new Coord($2, $4, $6, $8, $10); }
        ;

number
        : TOK_INTEGER                           { $$ = new Float($1); }
        | TOK_DOUBLE                            { $$ = new Float($1); }
        ;
%%
```

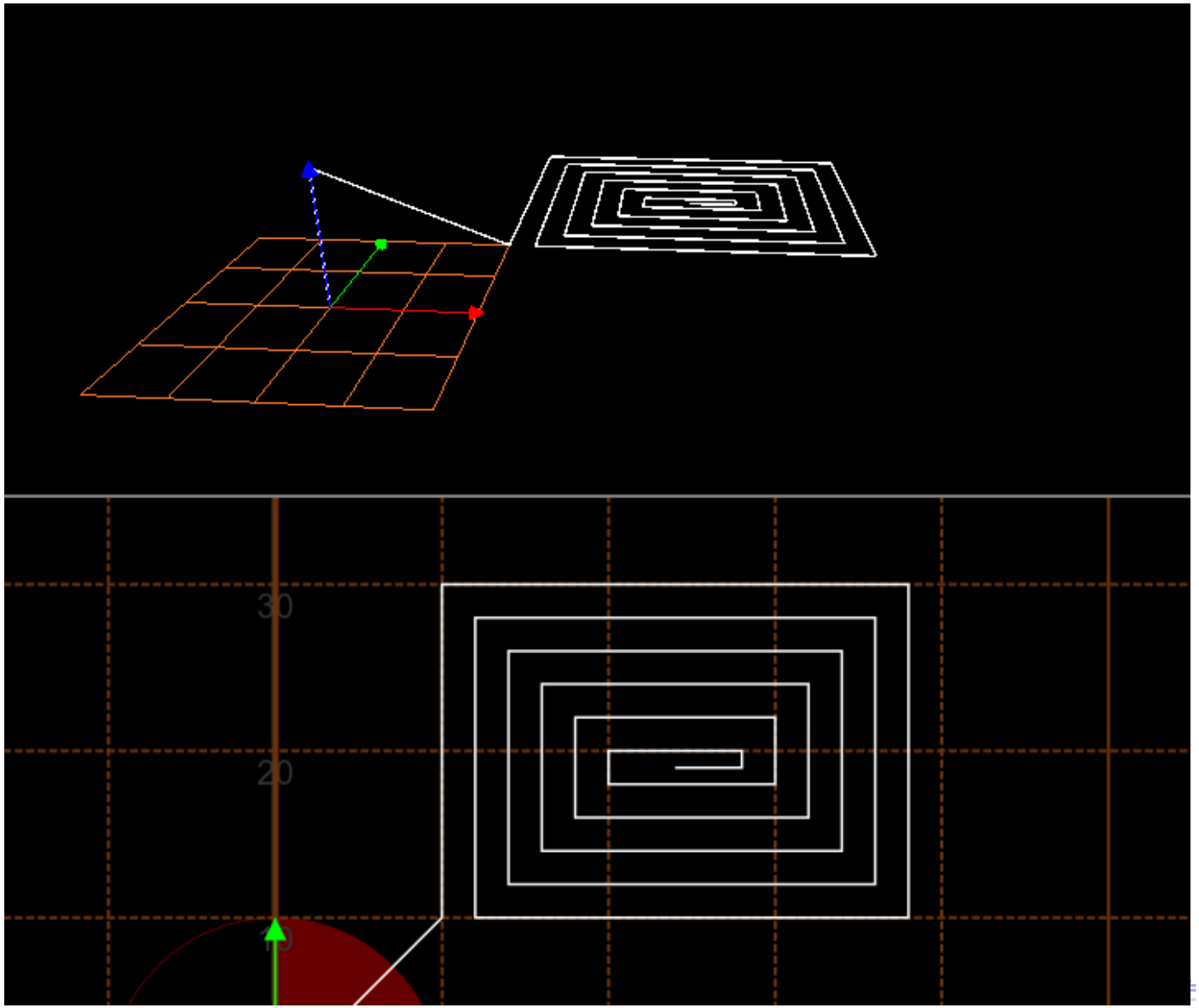
Programa .txt

```
linha(0,0,10) a linha(10,10,0);
linha(10,30,0) a linha(38,30,0);
linha(38,10,0) a linha(12,10,0);
linha(12,28,0) a linha(36,28,0);
linha(36,12,0) a linha(14,12,0);
linha(14,26,0) a linha(34,26,0);
linha(34,14,0) a linha(16,14,0);
linha(16,24,0) a linha(32,24,0);
linha(32,16,0) a linha(18,16,0);
linha(18,22,0) a linha(30,22,0);
linha(30,18,0) a linha(20,18,0);
linha(20,18,0) a linha(20,20,0);
linha(20,20,0) a linha(28,20,0);
linha(28,19,0) a linha(24,19,0);
```

G-code gerado!



Spiral Quadrada



Fim