Scripto

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1. Expressões Regulares

digit = {0-9}

letter = {a-zA-Z}

variable = {letter}{char}*

1.1. Tipos de Dados

int = ("-")?{digit}+

float = ("-")?{digit}+{dot}{digit}+

char = "{letter}|{digit}"

bool = "true"|"false"

string = char+

num = int | float

1.2. Comandos

attributionSign = "="

inputCommand = "input"

outputCommand = "print"

if = "if"

else = "else"

while = "while"

1.2. Operadores Relacionais

equal = "=="

greaterThan = ">"

greaterEqualThan = ">="

lessThan = "<"

lessEqualThan = "<="
different = "!="

1.3. Operadores Lógicos

and = "&&"
or = "||"
not = "!"

1.4. Operadores Aritméticos

sum = "+"
sub = "-"
mult = "*"
div = "/"
mod = "%"

1.5. Símbolos Especiais

begin = "{"
end = "}"
leftParentheses = "("
rightParentheses = ")"
dot = "."

1.6. Palavras Reservadas

type = "int"|"float"|"char"|"bool"|"string"|"num"
booleanValues = "true"|"false"
commandWords = "input"|"print"|"if"|"else"|"while"

2. Operações da linguagem

codeBlock = begin{operations}+end

operation = declaration | attribution | arithmetic | relational | logical | input | output | conditional | repetition

declaration = type variable

attribution = variable attributionSign type

arithmetic = num(sum | sub | mult | div | mod)num

relational = num(equal | greaterThan | greaterEqualThan | lessThan | lessEqualThan | different)num

logical = not?(bool){(and | or)not?(bool)}*

input = inputCommand leftParentheses (char | int | float | bool | string) rightParentheses

output = outputCommand leftParentheses (char | int | float | bool | string)rightParentheses

conditional = if leftParentheses logical rightParentheses begin {operation}+ end {else begin {operation}* end}?

repetition = while leftParentheses logical rightParentheses begin {operation}* end

3. Tokens

Definição	Token
variable	VARIABLE
int	INT
float	FLOAT
num	NUM
char	CHAR
bool	BOOL
string	STRING
type	TYPE
codeBlock	CODE_BLOCK
operation	OPERATION
declaration	DECLARATION
attribution	ATTRIBUTION
arithmetic	ARITHMETIC

Definição	Token
relational	RELATIONAL
logical	LOGICAL
input	INPUT
output	PRINT
conditional	CONDITIONAL
repetition	REPETITION

4. Autômatos
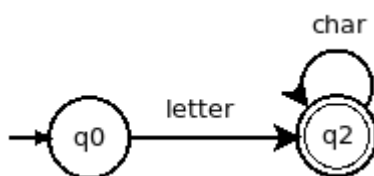
Figura 1 - TOKEN VARIABLE
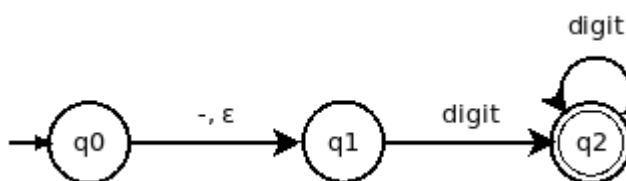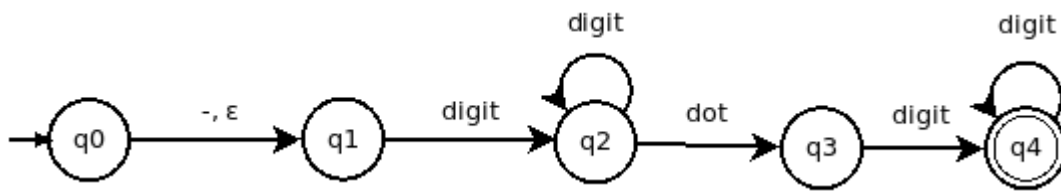

Figura 2 - TOKEN INT
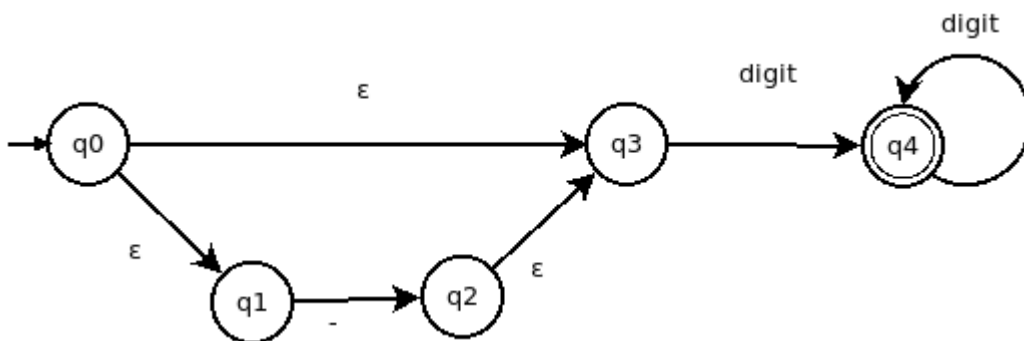
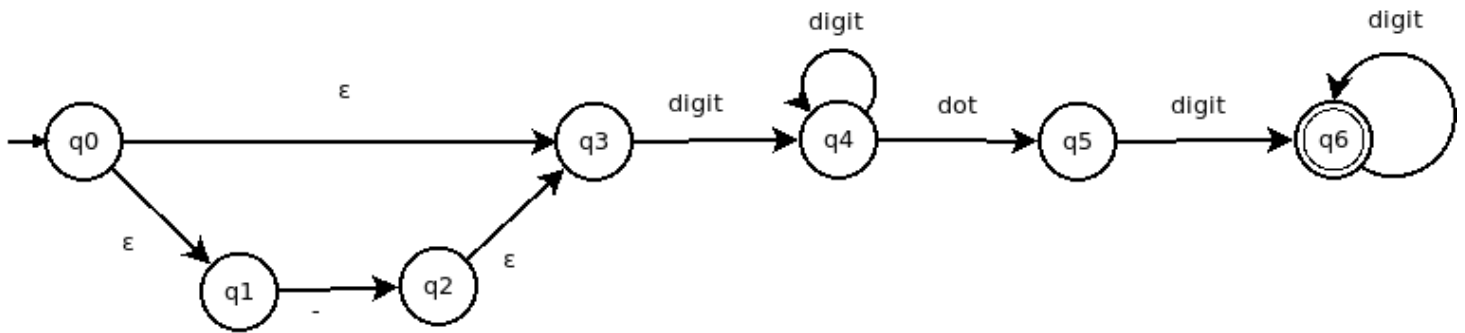Figura 3 - TOKEN INT Thompson

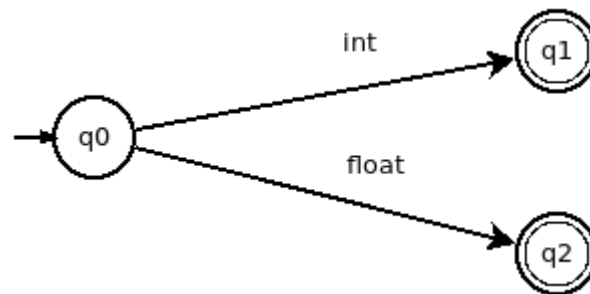Figura 4 - TOKEN FLOAT

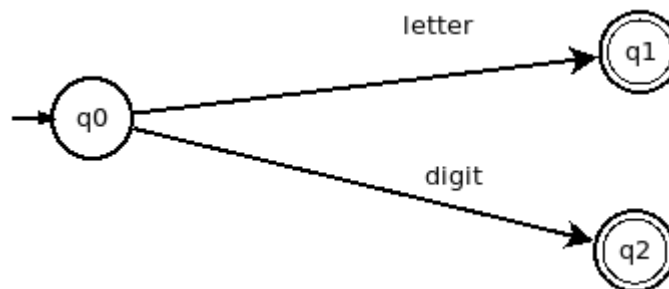Figura 5 - TOKEN FLOAT Thompson
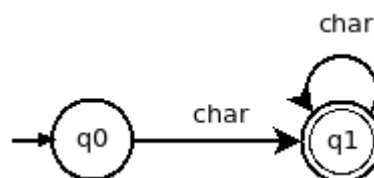

Figura 6 - TOKEN NUM
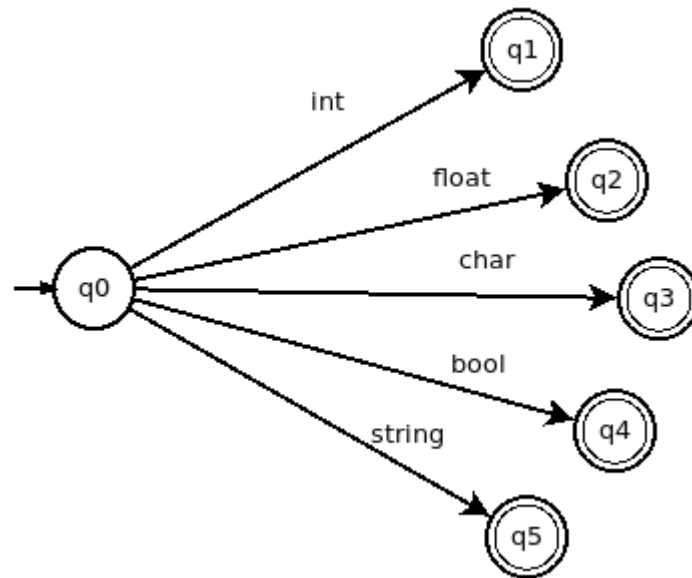

Figura 7 - TOKEN CHAR

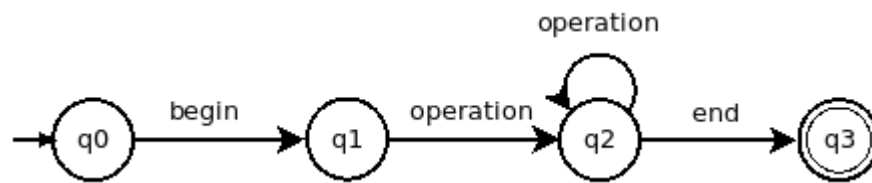Figura 8 - TOKEN STRING
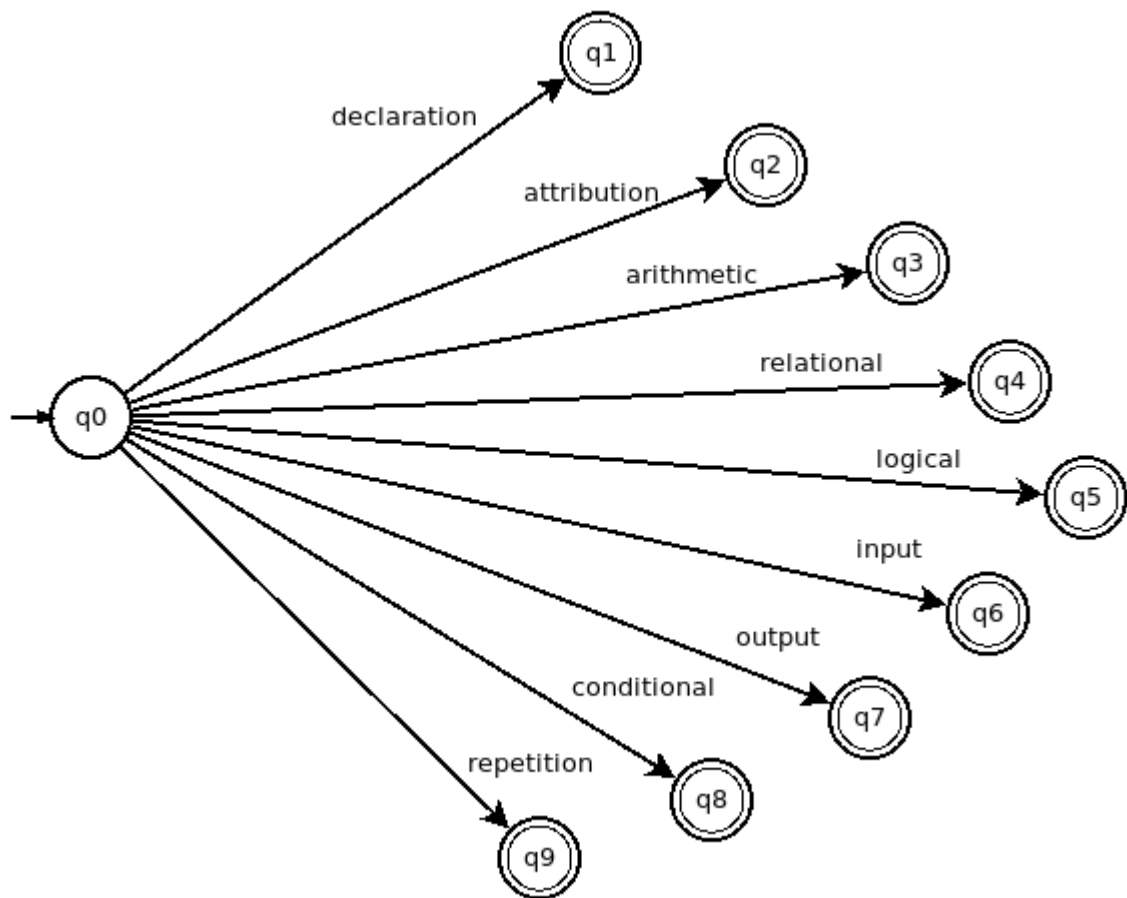
Figura 9 - TOKEN TYPE

Figura 10 - TOKEN CODE_BLOCK

Figura 11 - TOKEN OPERATION
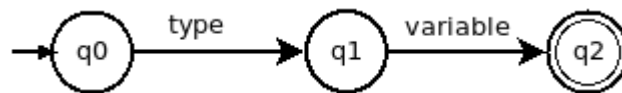
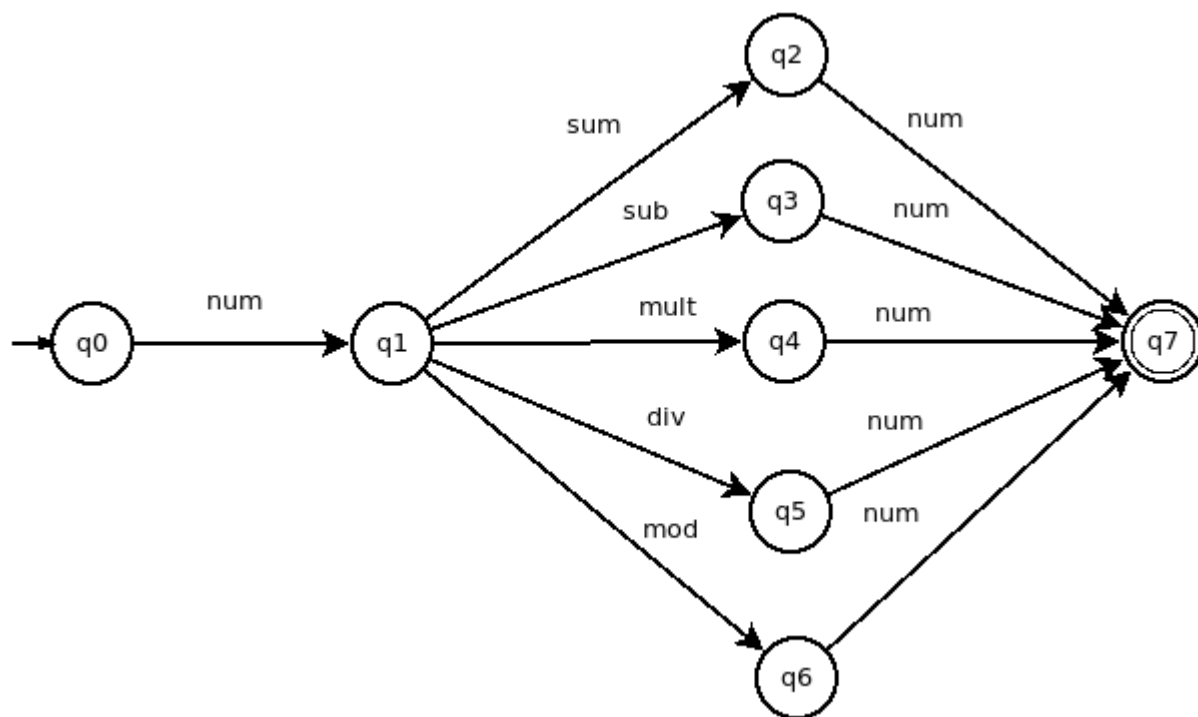Figura 12 - TOKEN DECLARATION
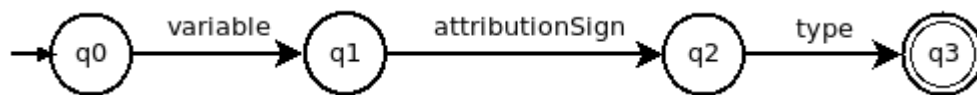
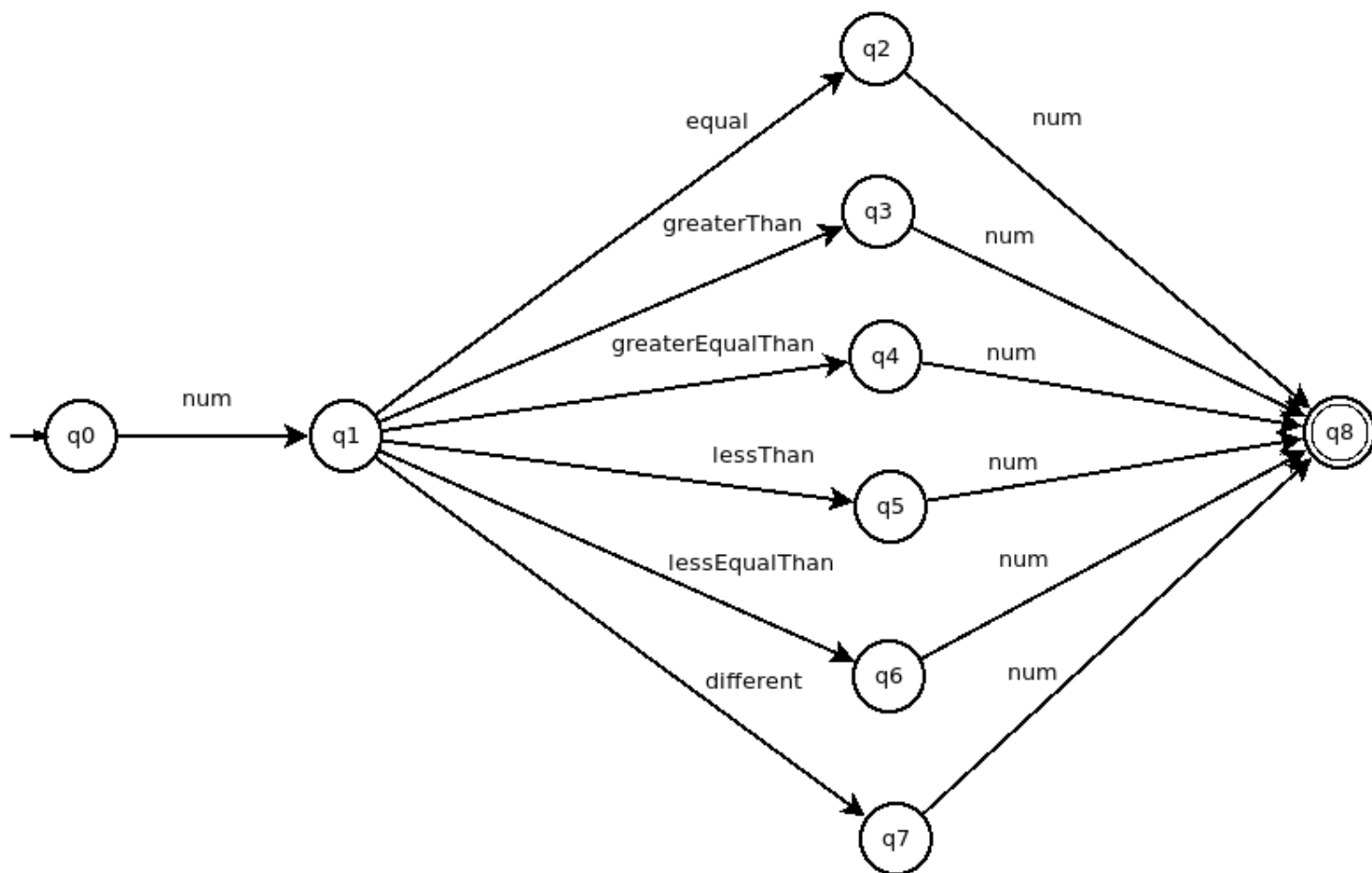Figura 13 - TOKEN ATTRIBUTION

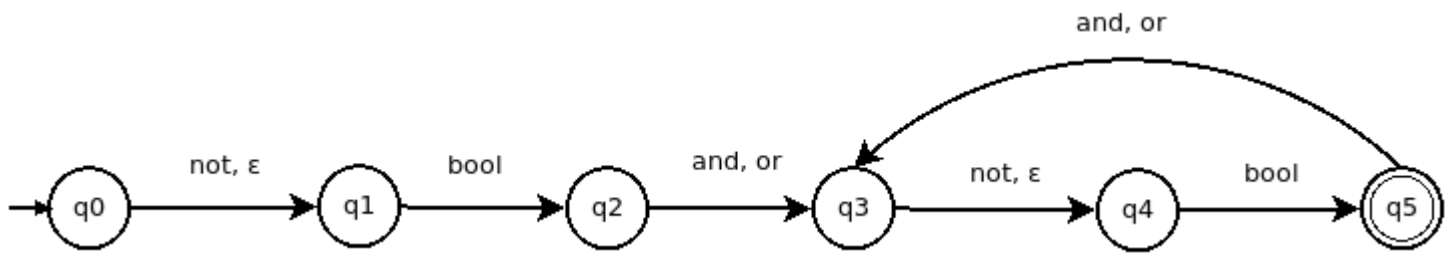Figura 14 - TOKEN ARITHMETIC
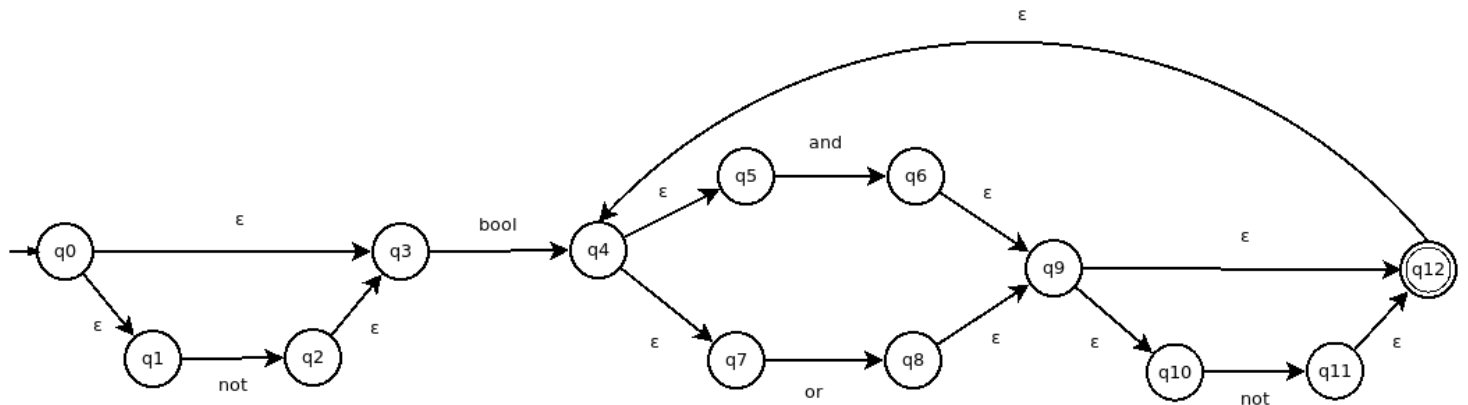

Figura 15 - TOKEN RELATIONAL

Figura 16 - TOKEN LOGICAL
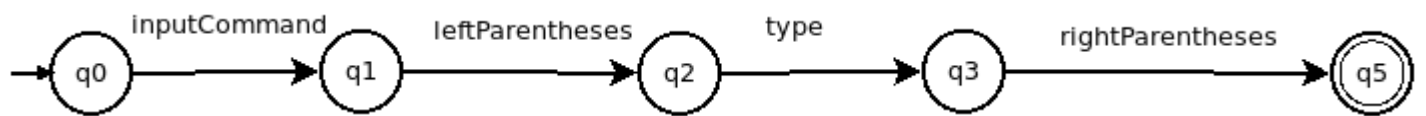

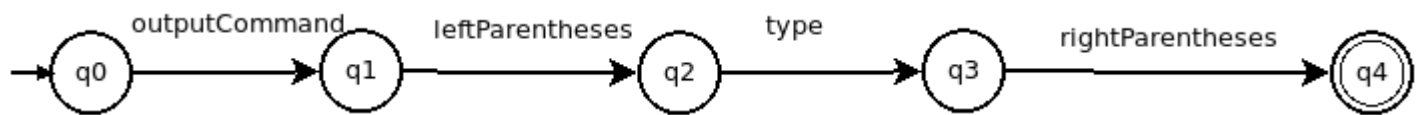Figura 17 - TOKEN LOGICAL Thompson
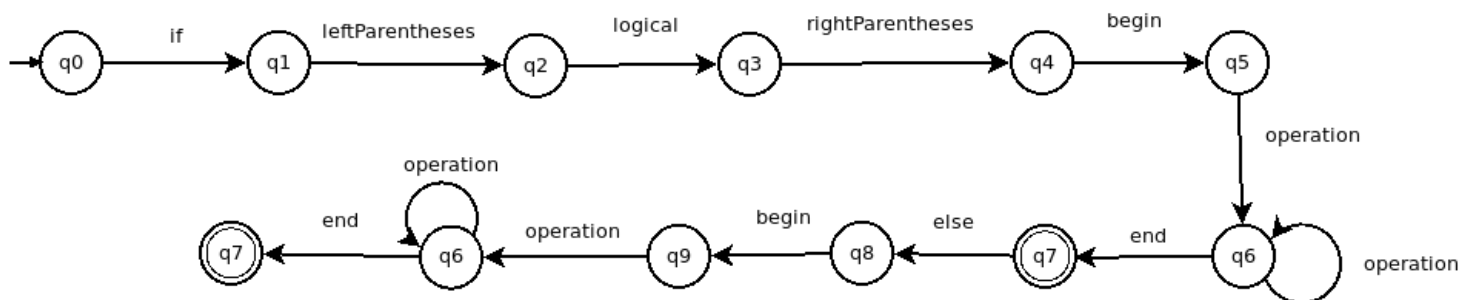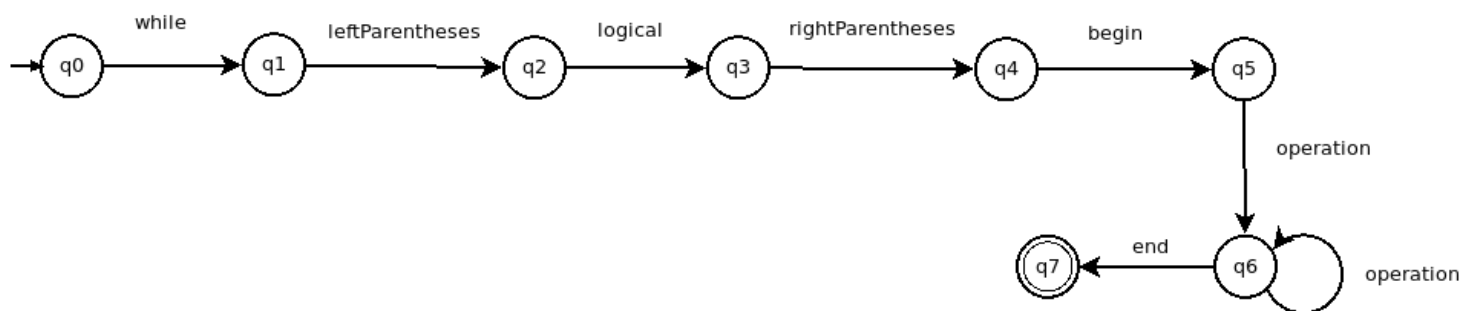

Figura 18 - TOKEN INPUT

Figura 19 - TOKEN PRINT

Figura 20 - TOKEN CONDITIONAL

Figura 21 - TOKEN REPETITION