

Exercício 1 de Compiladores

Nome: Samuel Evangelista de Aquino Junior

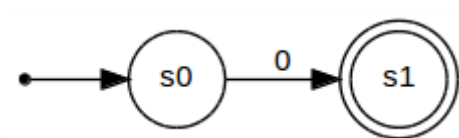
Matricula: 397618

1.

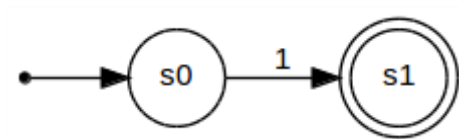
a)

Padrão de cada símbolo :

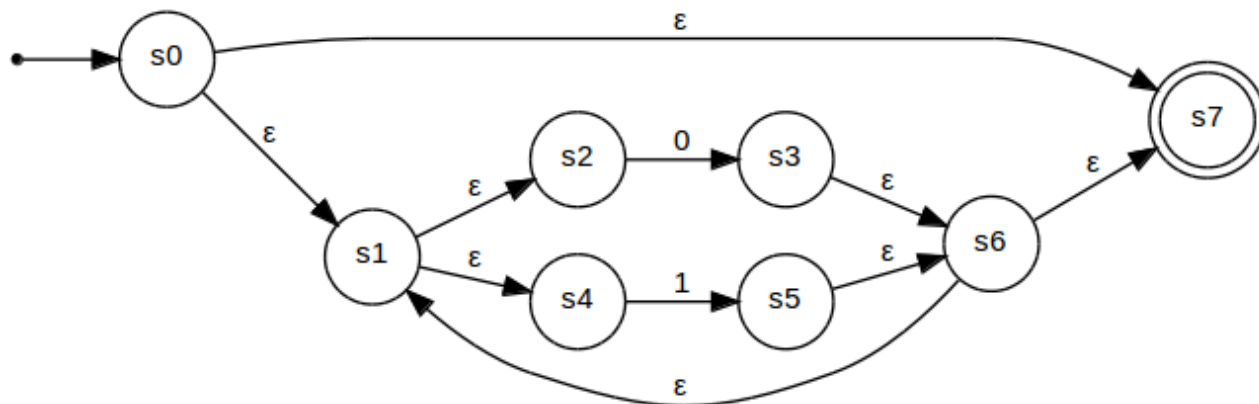
0 :



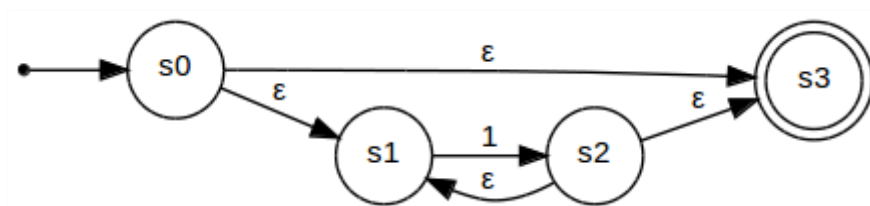
1 :



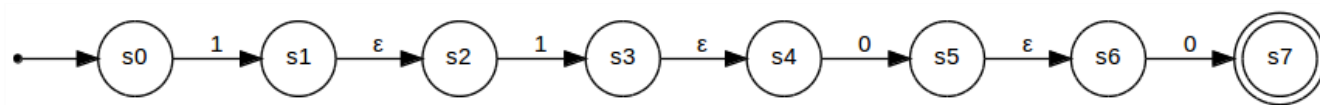
$(0|1)^*$:



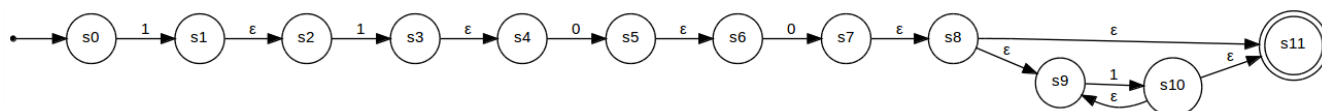
1^* :



1100 :

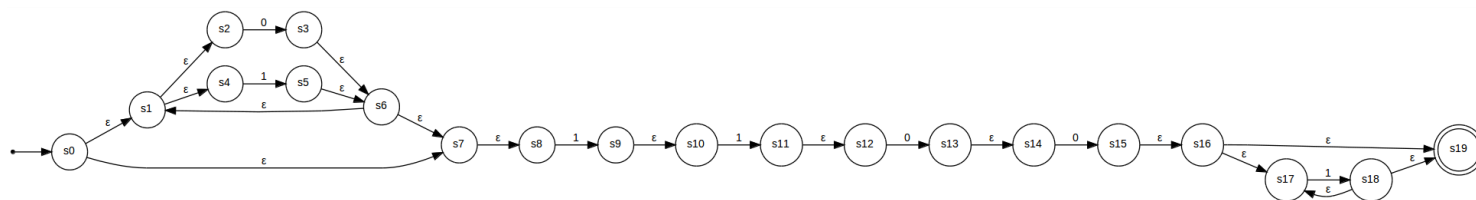


11001* :



b)

NFA concluído :



2.

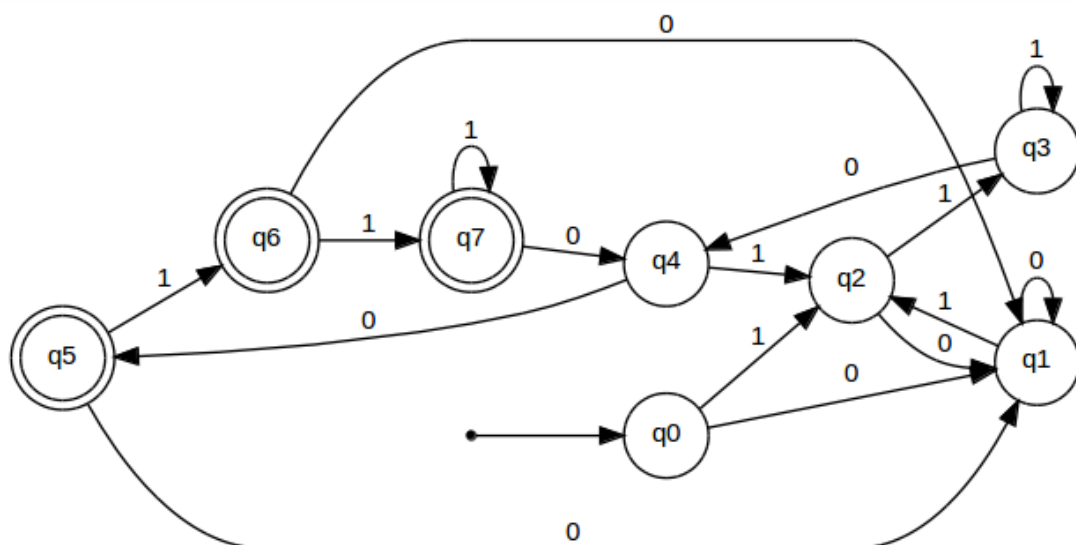
a)

Construção da tabela de transformação de NFA para DFA :

DFA	NFA	0	1
q0	s0, s1, s2, s4, s7, s8	s1, s2, s3, s4, s6, s7, s8	s1, s2, s4, s5, s6, s7, s8, s9, s10
q1	s1, s2, s3, s4, s6, s7, s8	q1	q2
q2	s1, s2, s4, s5, s6, s7, s8, s9, s10	q1	s1, s2, s4, s5, s6, s7, s8, s9, s10, s11, s12
q3	s1, s2, s4, s5, s6, s7, s8, s9, s10, s11, s12	s1, s2, s3, s4, s6, s7, s8, s13, s14	q3
q4	s1, s2, s3, s4, s6, s7, s8, s13, s14	s1, s2, s3, s4, s6, s7, s8, s15, s16, s17, s19	q2
q5	s1, s2, s3, s4, s6, s7, s8, s15, s16, s17, s19	q1	s1, s2, s4, s5, s6, s7, s8, s9, s10, s17, s18, s19
q6	s1, s2, s4, s5, s6, s7, s8, s9, s10, s17, s18, s19	q1	s1, s2, s4, s5, s6, s7, s8, s9, s10, s11, s12, s17, s18, s19
q7	s1, s2, s4, s5, s6, s7, s8, s9, s10, s11, s12, s17, s18, s19	q4	q7

b)

DFA gerado :



3.

a)

Algoritmo de Hopcroft para minimizar o automato :

Partição Atual	Worklist	S	Split 0	Split 1
$\{q5, q6, q7\}\{q0, q1, q2, q3, q4\}$	$\{q5, q6, q7\}\{q0, q1, q2, q3, q4\}$	$\{q5, q6, q7\}$	$\{q4\}$	-----
$\{q5, q6, q7\}\{q4\}\{q0, q1, q2, q3\}$	$\{q4\}\{q0, q1, q2, q3\}$	$\{q4\}$	$\{q3\}$	-----
$\{q5, q6, q7\}\{q4\}\{q3\}\{q0, q1, q2\}$	$\{q3\}\{q0, q1, q2\}$	$\{q3\}$	-----	$\{q2\}$
$\{q5, q6, q7\}\{q4\}\{q3\}\{q2\}\{q0, q1\}$	$\{q2\}\{q0, q1\}$	$\{q2\}$	-----	-----
$\{q5, q6, q7\}\{q4\}\{q3\}\{q2\}\{q0, q1\}$	$\{q2\}\{q0, q1\}$	$\{q2\}\{q0, q1\}$	-----	-----

b)

DFA minimizado :

