Morning

Exercises 1 RegExp for

$L = \{ 0^n 1^m \mid n < 4, m \leq 3 \}$.

$n = 0, 1, 2, 3$ $\qquad$ $m = 0, 1, 2, 3$

$(\varepsilon + 0 + 00 + 000)$ $\qquad$ $(\varepsilon + 1 + 11 + 111)$

$(0+\varepsilon)(0+\varepsilon)(0+\varepsilon)(1+\varepsilon)(1+\varepsilon)(1+\varepsilon)$

? $\qquad$ [0]{0,3}[1]{0,3}

? $\qquad$ $(0 + \varepsilon)^3 (1 + \varepsilon)^3$

Exercises 1 RegExp for

The set of all strings of 0's and 1's not containing 101 as a substring.

$$(0 + 1)^* \, 101 \, (0 + 1)^*$$

$$(0 + \varepsilon) \quad (000^* + 1)^* \quad (0 + \varepsilon)$$

$$0^*1^*(000^*1^*)^*0^*$$

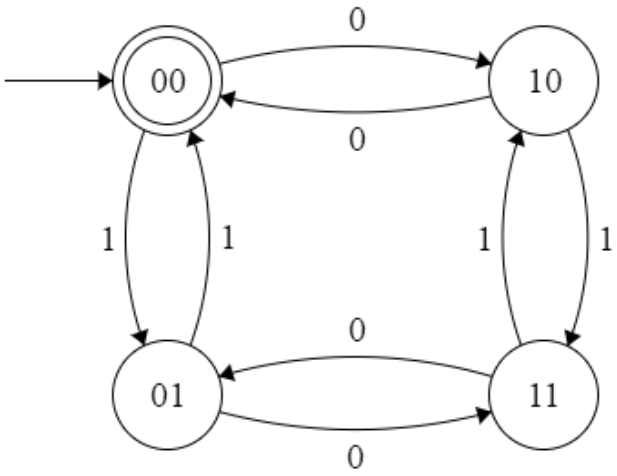
$$(0^*1^*100)^*(\varepsilon+0^*+0^*1^*1+0^*1^*10)$$

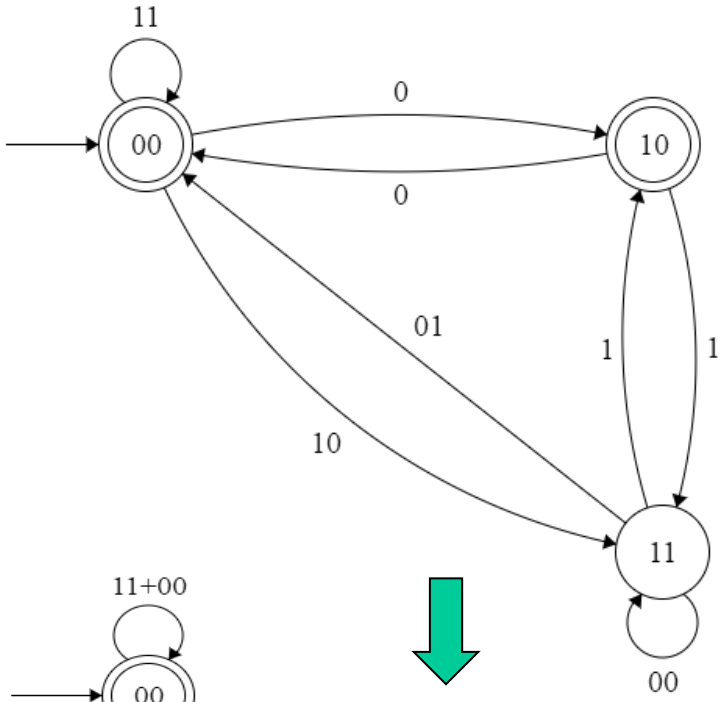
Exercises 1 RegExp for

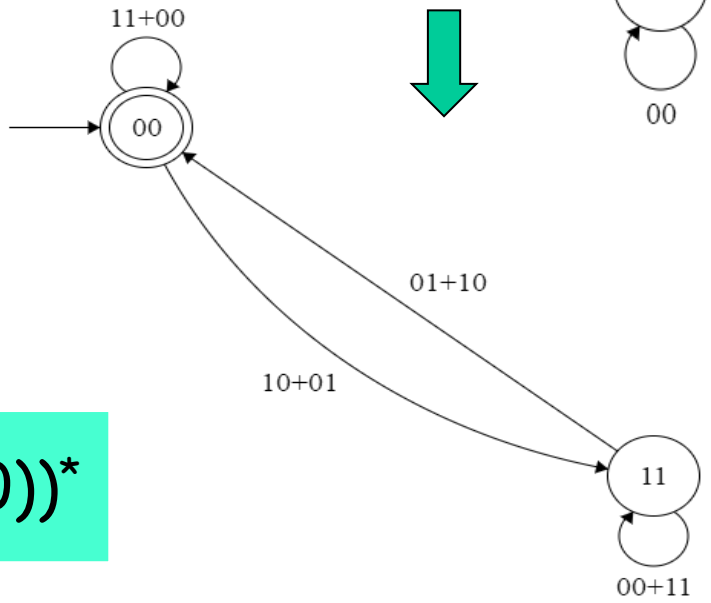
The set of strings of 0's and 1's whose number of 0's is divisible by five and whose number of 1's is even.

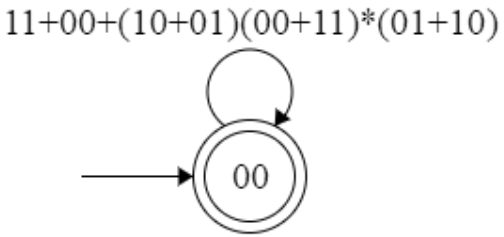
0000011, 0000101, 0001001, 0010001, ……

DFA ⇒ RegExp for *L*("00-11")



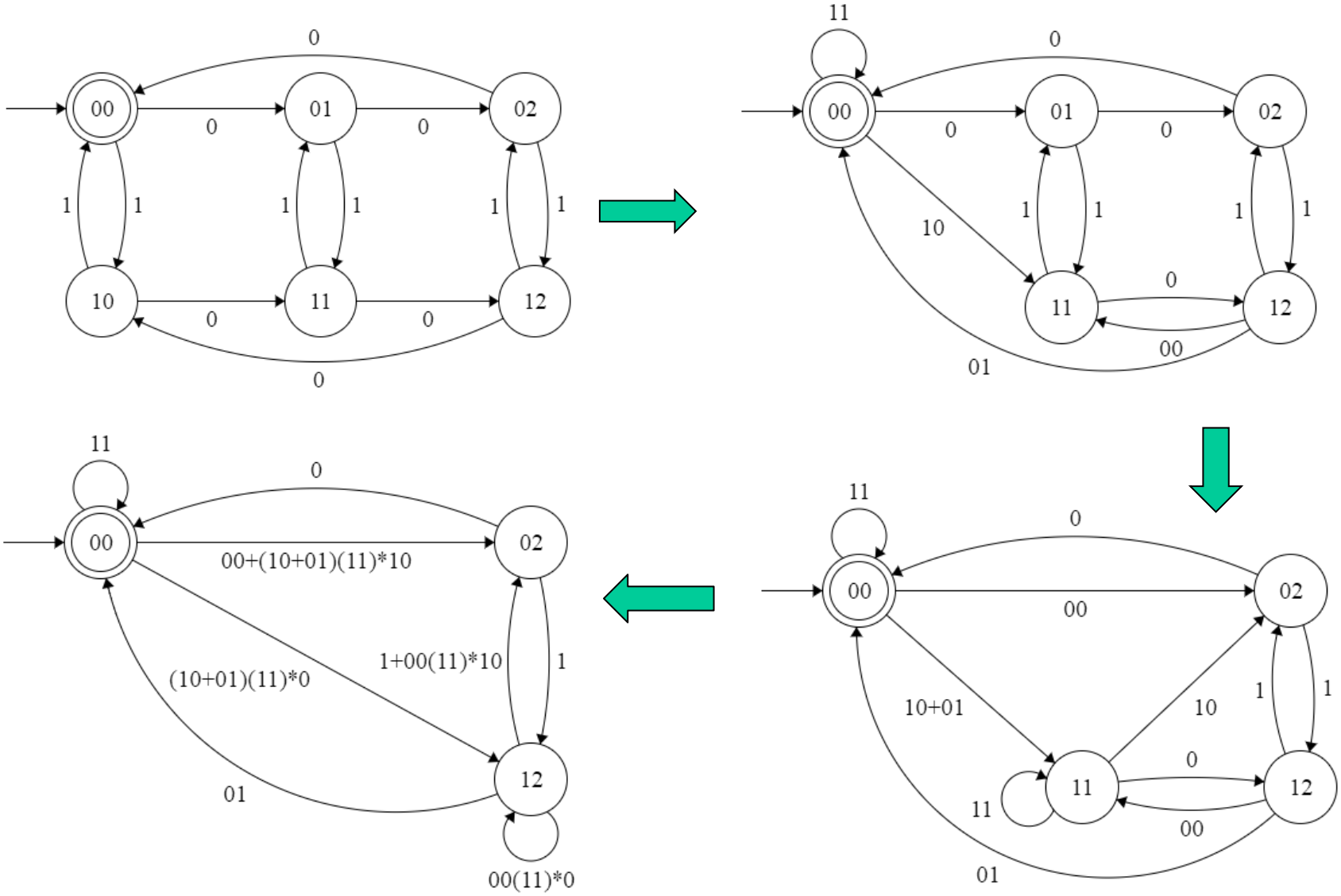




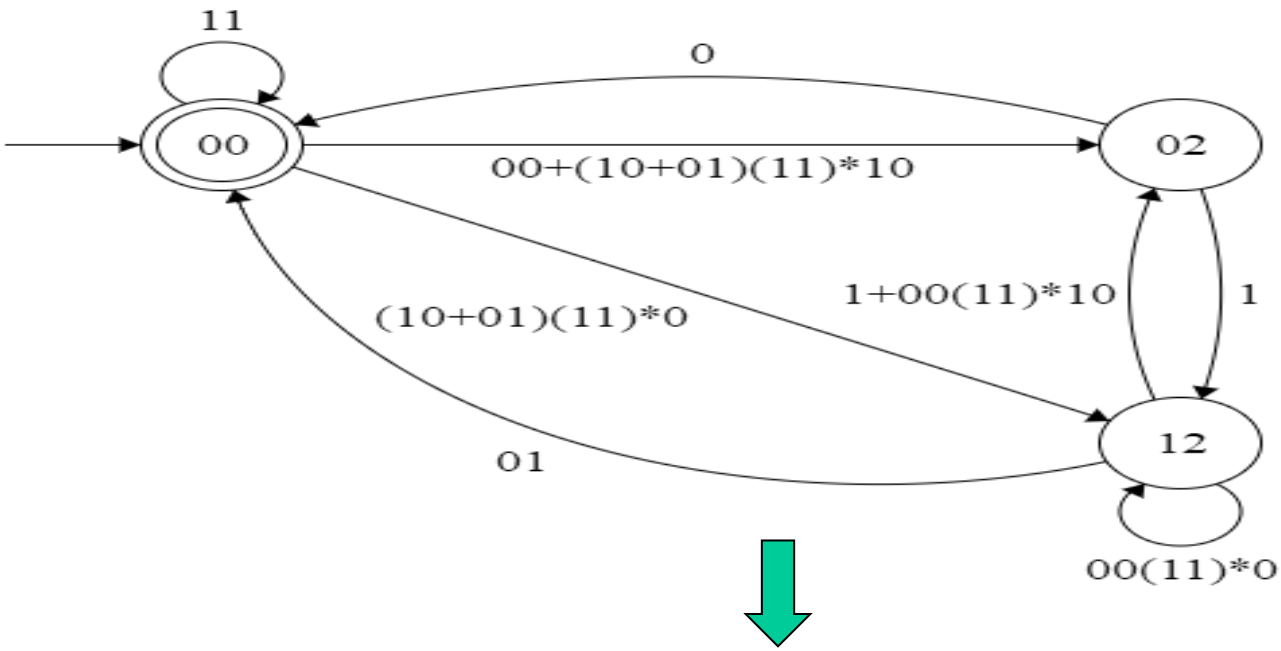


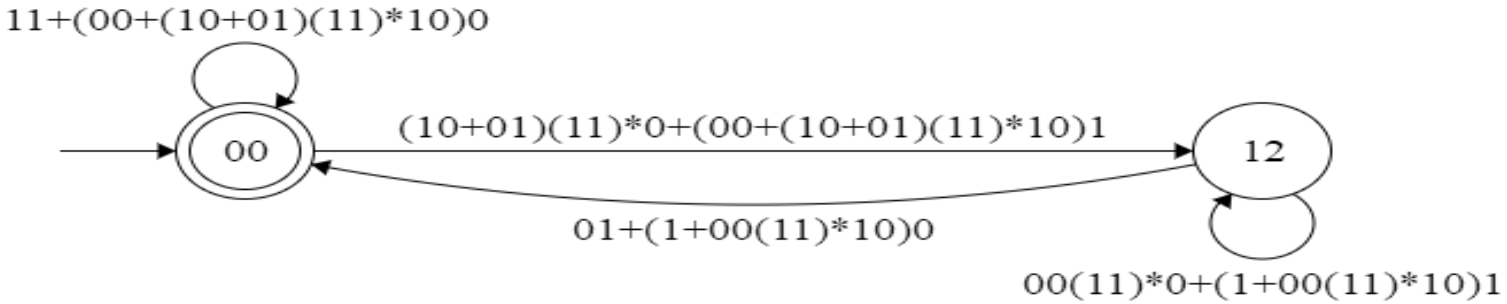
$$(11+00+(10+01)(00+11)^*(01+10))^*$$

DFA ⇒ RegExp for *L*("000-11")

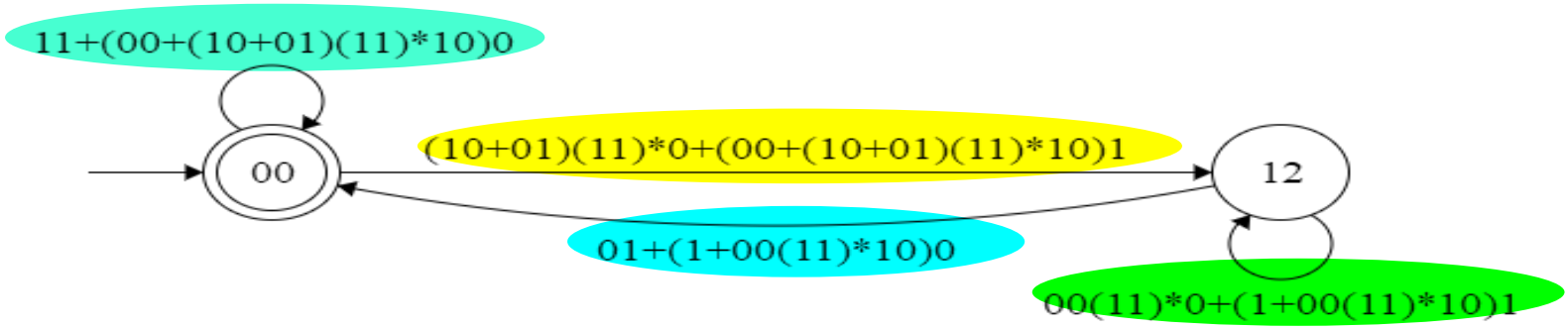


DFA ⇒ RegExp for *L*("000-11")





DFA ⇒ RegExp for *L*("000-11")



(11+(00+(10+01)(11)*10)0 +

((10+01)(11)*0+(00+(10+01)(11)*10)1)

((00(11)*0+(1+00(11)*10)1) (01+(1+00(11)*10)0))*

RegExp for *L*("000-11")

(11+00+(10+01)(00+11)*(01+10))*

(11+000+(10+01) (000+11)* (100+010+001))*

001(10+01)

(11+000+(10+01)(000+11)*(100+010+001)+001(000+11)*(10+01))*

X	X	X	X	X
1	1	0	0	0
1	0	1	0	0
1	0	0	1	0
1	0	0	0	1

$$C_5^2 = A_5^2 \,/\, 2! = 5 \times 4 \div 2 = 10$$

RegExp for *L*("000-11")

L("00-11")

$$(\ 11+00+(10+01)(00+11)^*(01+10)\ )^*$$

L("000-11")

$$(11+000+(10+01)(000+11)^*(100+010+001)+001(000+11)^*(10+01))^*$$

L("00000-11")

? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ? ?

Good good study day day up !