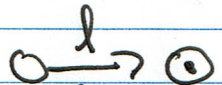
NFSM for Identifier:

Regular Expression: $l(l|-|d)^*(l|d)|l$

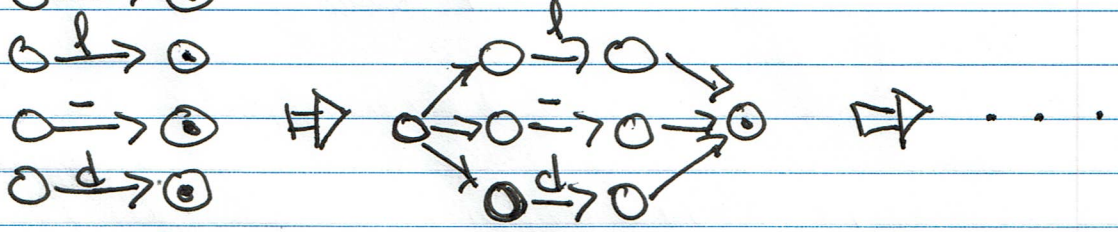
Break RE down into parts:

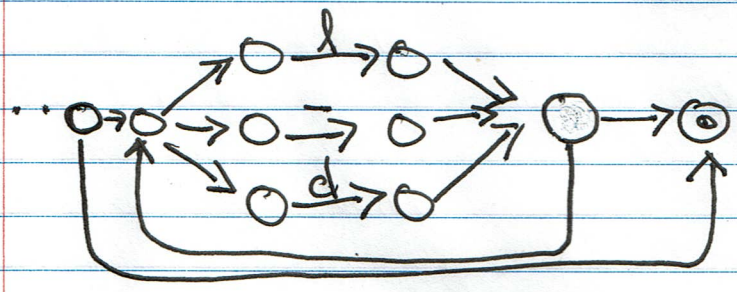
1. l
2. $(l|-|d) \rightarrow (l|-|d)^*$
3. $(l|d)$
4. l

1.

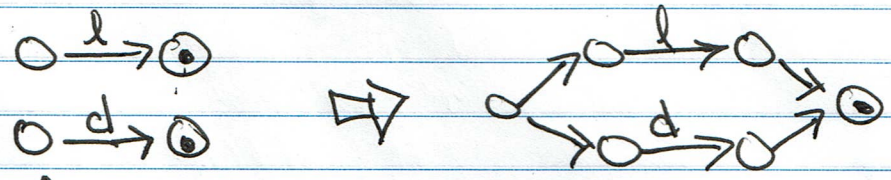


2.

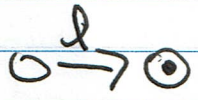




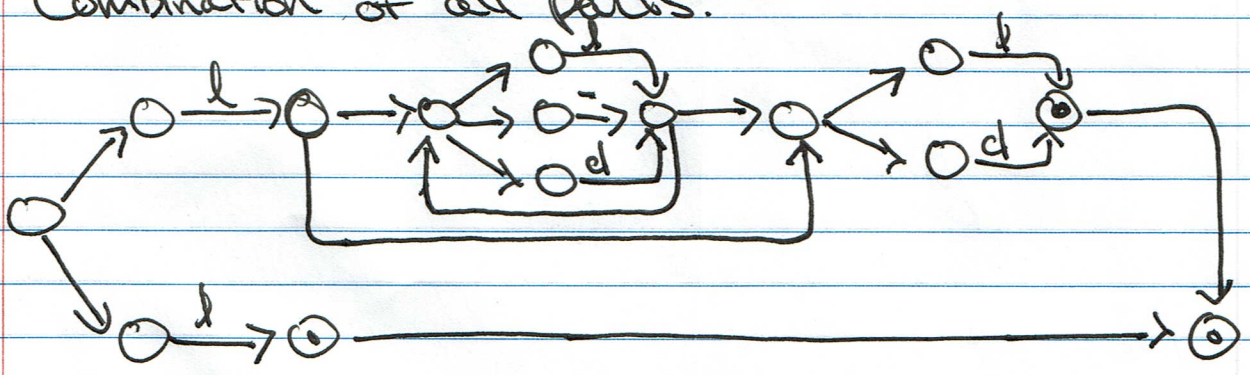
3.



4.



Combination of all parts:

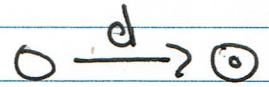


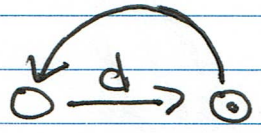
Simplified version of DFSM for Identifier:

	l	_	d
q_0 = 0	1	4	4
1	3	2	3
2	3	2	3
3	3	2	3
4	4	4	4

NFSM for Integer:

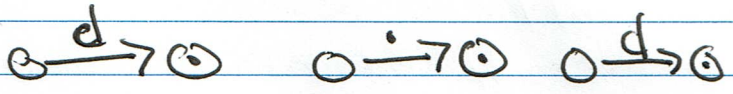
Regular Expression: d+

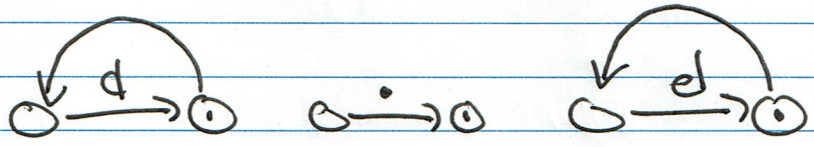
1. 

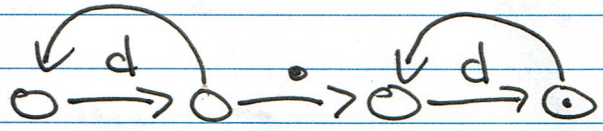
2. 

MFSM for Real:

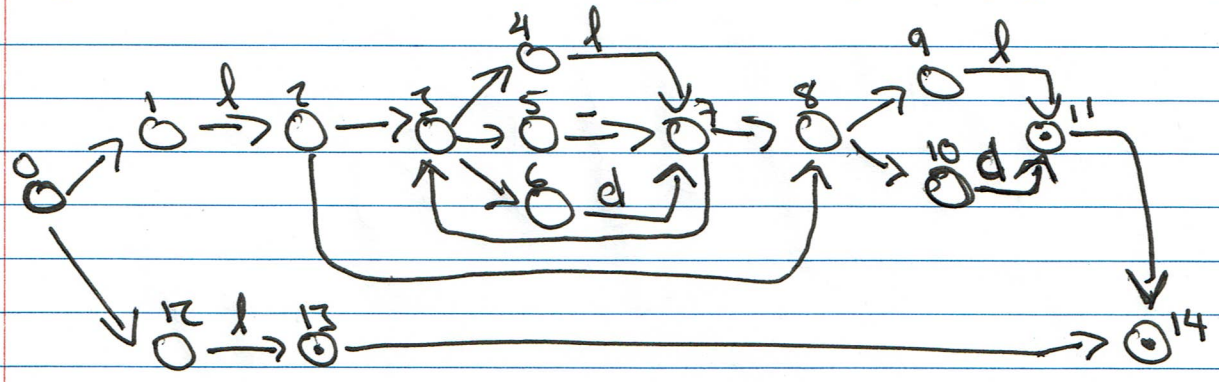
Regular Expression: d+.d+

1. 

2. 

3. 

Identifier NFSM Convert to DFSM



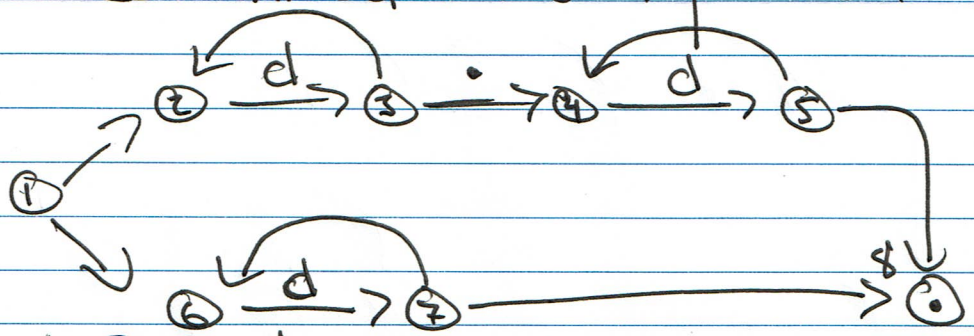
ε-closures:

ε-closure(0) = {0, 1, 12}
" (1) = {1}
" (2) = {2, 3, 4, 5, 6, 8, 9, 10}
" (3) = {3, 4, 5, 6}
" (4) = {4}
" (5) = {5}
" (6) = {6}
" (7) = {7, 8, 9, 10, 3, 4, 5, 6}
" (8) = {8, 9, 10}
" (9) = {9}
" (10) = {10}
" (11) = {11, 14}
" (12) = {12, 13, 14}
" (13) = {13, 14}
" (14) = {14}

[3,4,5,6,7,8,9,10,11,14]

	l	—	d
q_0 = [0,1,12]	[2,3,4,5,6,8,9,10,13]	[ ]	[ ]
[2,3,4,5,6,8,9,10,13]	[3,4,5,6,7,8,9,10,11,14]		[3,4,5,6,7,8,9,10]
[3,4,5,6,7,8,9,10]	[3,4,5,6,7,8,9,10,11,14]		[3,4,5,6,7,8,9,10] [3,4,5,6,7,8,9,10,11
[3,4,5,6,7,8,9,10,11,14]	[3,4,5,6,7,8,9,10,11,14]		[3,4,5,6,7,8,9,10] [3,4,5,6,7,8,9,10,11,14]
[ ]	[ ]	[ ]	[ ]

Combined NFSM for Real & Integer



DFSM for Real & Integer

	d	.
q_0 = [1,2,6]	[2,3,6,7,8]	[ ]
[2,3,6,7,8]	[2,3,6,7,8]	[4]
[4]	[4,5,8]	[ ]
[4,5,8]	[4,5,8]	[ ]
[ ]	[ ]	[ ]

Simplified DFSM for Real & Integer

	d	.
q_0 = 0	1	4
1	1	2
2	3	4
3	3	4
4	4	4