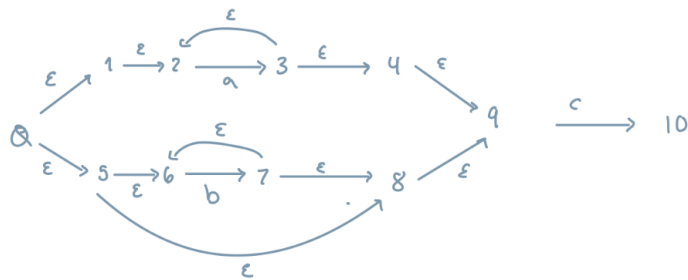


Kenneth Galvez  
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**Pre Lab B**

$(a^*|b^*)c^*$

$(a^*|b^*)c$

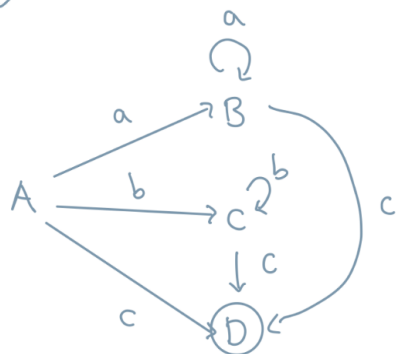
AFN



AFN  $\rightarrow$  AFD

	a	b	c
A {0, 1, 2, 3, 4, 5, 6, 7, 8, 9}	B	C	D
B {2, 3, 4, 9}	B	-	D
C {6, 7, 8, 9}	-	C	D
D {10}	-	-	-

AFD

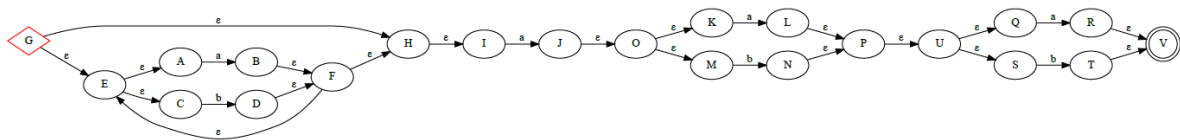


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**Pre Lab B**

$(a|b)^*a(a|b)(a|b)$

```
5
6  regex = "(a|b)*a(a|b)(a|b)"
7
8  posfix, error, alphabet = infix_to_posfix(regex)
9  afn = generate_afn_from_posfix(posfix, alphabet)
10 afn.draw_afn()
11 afn.find_cerradura()
12 afd: AFD = afn.to_afd()
13 afd.draw_afd()
```

AFN:



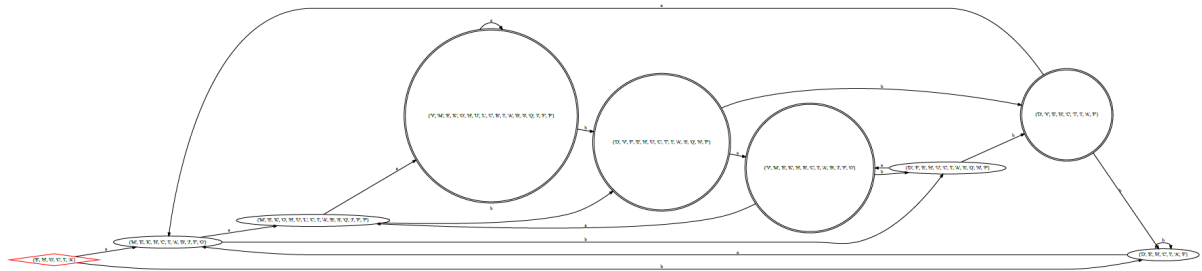
```
▼ transitions: {'A': {'ε': [...], 'a': [...], 'b': [...]}, 'B': {'ε': [...], 'a': [...], 'b': [...]}, 'C': {'ε': [...], 'a': [...], 'b': [...]}, 'D': {'ε': [...], 'a': [...], 'b': [...]}, 'E': {'ε': [...], 'a': [...], 'b': [...]}, 'F': {'ε': [...], 'a': [...], 'b': [...]}, 'G': {'ε': [...], 'a': [...], 'b': [...]}, 'H': {'ε': [...], 'a': [...], 'b': [...]}, 'I': {'ε': [...], 'a': [...], 'b': [...]}, 'J': {'ε': [...], 'a': [...], 'b': [...]}, 'K': {'ε': [...], 'a': [...], 'b': [...]}, 'L': {'ε': [...], 'a': [...], 'b': [...]}, 'M': {'ε': [...], 'a': [...], 'b': [...]}, 'N': {'ε': [...], 'a': [...], 'b': [...]}, 'O': {'ε': [...], 'a': [...], 'b': [...]}, 'P': {'ε': [...], 'a': [...], 'b': [...]}, 'Q': {'ε': [...], 'a': [...], 'b': [...]}, 'R': {'ε': [...], 'a': [...], 'b': [...]}, 'S': {'ε': [...], 'a': [...], 'b': [...]}, 'T': {'ε': [...], 'a': [...], 'b': [...]}, 'U': {'ε': [...], 'a': [...], 'b': [...]}, 'V': {'ε': [...], 'a': [...], 'b': [...]}}
```

```
> 'J': {'ε': ['O'], 'a': [], 'b': []}
> 'K': {'ε': [], 'a': ['L'], 'b': []}
> 'L': {'ε': ['P'], 'a': [], 'b': []}
> 'M': {'ε': [], 'a': [], 'b': ['N']}
> 'N': {'ε': ['P'], 'a': [], 'b': []}
> 'O': {'ε': ['K', 'M'], 'a': [], 'b': []}
> 'P': {'ε': ['U'], 'a': [], 'b': []}
> 'Q': {'ε': [], 'a': ['R'], 'b': []}
> 'R': {'ε': ['V'], 'a': [], 'b': []}
> 'S': {'ε': [], 'a': [], 'b': ['T']}
> 'T': {'ε': ['V'], 'a': [], 'b': []}
> 'U': {'ε': ['Q', 'S'], 'a': [], 'b': []}
```

```
> 'V': {'ε': [], 'a': [], 'b': []}
len(): 22
```

AFD:

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**Pre Lab B**



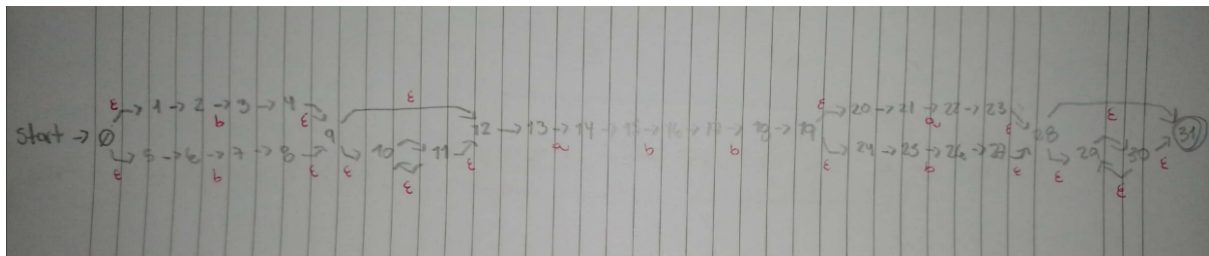
```
> transitions: {"('E','H','G','C','I','A')":{"a":{"M","E","K","H...F","O"},"b":{"D","E","H","C...A","F"}},{"('M','E','K','H...F','O')}::=
> special variables
> function variables
> {"('E','H','G','C','I','A')":{"a":{"M","E","K","H...F","O"},"b":{"D","E","H","C...A","F"}}}
> {"('M','E','K','H','C','I','A','B','J','F','O')}":{"a":{"M","E","K","O...F","P"},"b":{"D","E","E","H...W","P"}}}
> {"('D','E','H','C','I','A','F')}":{"a":{"M","E","K","H...F","O"},"b":{"D","E","H","C...A","F"}}}
> {"('M','E','K','O','H','U','L','C','I','A','B','S','Q','J','F','P')}":{"a":{"V","M","E","K...F","P"},"b":{"D","V","F","E...N","P"}}
> {"('D','F','E','H','U','C','I','A','S','Q','N','P')}":{"a":{"V","M","E","K...F","O"},"b":{"D","V","E","H...A","F"}}}
> {"('V','M','E','K','O','H','U','L','C','R','I','A','B','S','Q','J','F','P')}":{"a":{"V","M","E","K...F","P"},"b":{"D","V","F","E...N","P"}}
> {"('D','V','F','E','H','U','C','I','I','A','S','Q','N','P')}":{"a":{"V","M","E","K...F","O"},"b":{"D","V","E","H...A","F"}}}
> {"('V','M','E','K','H','R','C','I','A','B','J','F','O')}":{"a":{"M","E","K","O...F","P"},"b":{"D","F","E","H...N","P"}}}
> {"('D','V','E','H','C','I','I','A','F')}":{"a":{"M","E","K","H...F","O"},"b":{"D","F","E","H","C...A","F"}}}
```

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**Pre Lab B**

$(b|b)^*abb(a|b)^*$

AFN:

$(b b)^*abb(a b)^*$ AFN			
Est	a	b	$\epsilon$
0	-	-	$\{1, 5\}$
1	-	-	$\{2\}$
2	-	$\{3\}$	-
3	-	-	$\{4\}$
4	-	-	$\{9\}$
5	-	-	$\{6\}$
6	-	$\{7\}$	-
7	-	-	$\{8\}$
8	-	-	$\{9\}$
9	-	-	$\{10, 12\}$
10	-	-	$\{11\}$
11	-	-	$\{10, 12\}$
12	-	-	$\{13\}$
13	$\{14\}$	-	-
14	-	-	$\{15\}$
15	-	$\{16\}$	-
16	-	-	$\{17\}$
17	-	$\{18\}$	-
18	-	-	$\{19\}$
19	-	-	$\{20, 24\}$
20	-	-	$\{21\}$
21	$\{22\}$	-	-
22	-	-	$\{23\}$
23	-	-	$\{28\}$
24	-	-	$\{25\}$
25	-	$\{26\}$	-
26	-	-	$\{27\}$
27	-	-	$\{28\}$
28	-	-	$\{29, 31\}$
29	-	-	$\{30\}$
30	-	-	$\{29, 31\}$
31	-	-	-

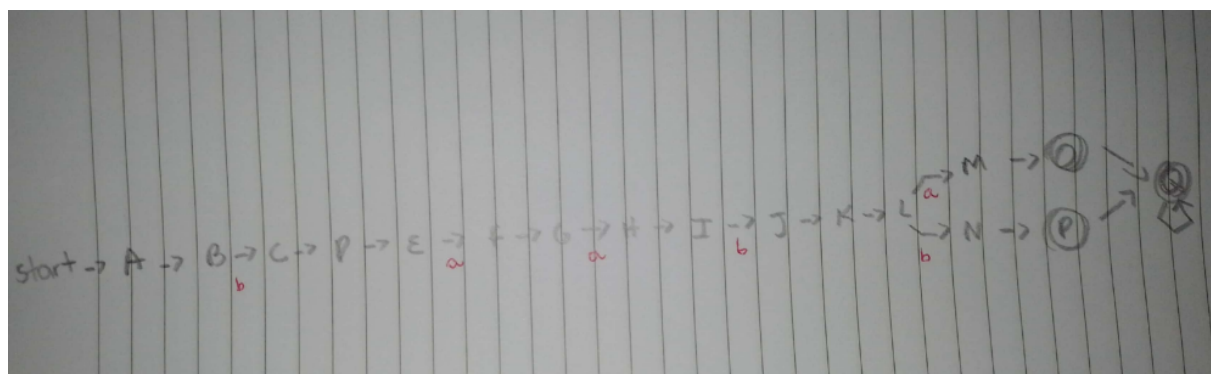


AFD:

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 Rebecca Smith  
 Andrea Lam  
 Luis Pedro González Aldana  
**Pre Lab B**

AFD

AFN S.	AFD S.	-	a	b
$\{0, 1, 5\}$	A	B		
$\{2, 6\}$	B			C
$\{3, 7\}$	C	D		
$\{4, 8, 9, 10, 12\}$	D	E		
$\{11, 12, 13\}$	E	F	f	
$\{14\}$	F	G		
$\{15\}$	G			H
$\{16\}$	H	I		
$\{17\}$	I			J
$\{18\}$	J	K		
$\{19, 20, 24\}$	K	L		
$\{21, 25\}$	L		M	N
$\{22\}$	M	O		
$\{26\}$	N	P		
$\{23, 28, 29, 31\}$	O	Q		
$\{27, 28, 29, 31\}$	P	Q		
$\{29, 30, 31\}$	Q	Q		

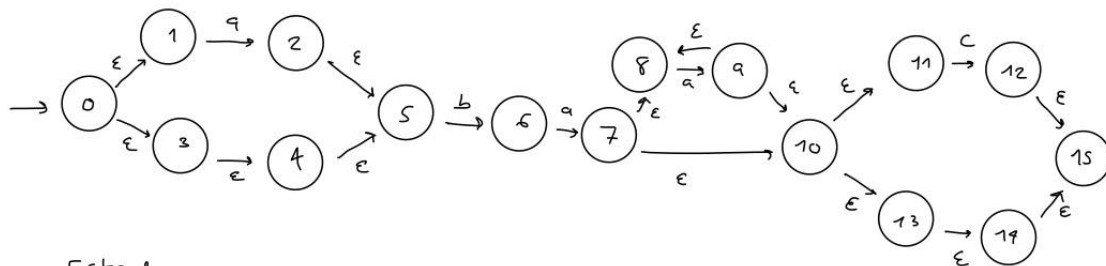


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**Pre Lab B**

$(a|E)b(a+)c?$

$(a|\epsilon)b(a+)c?$

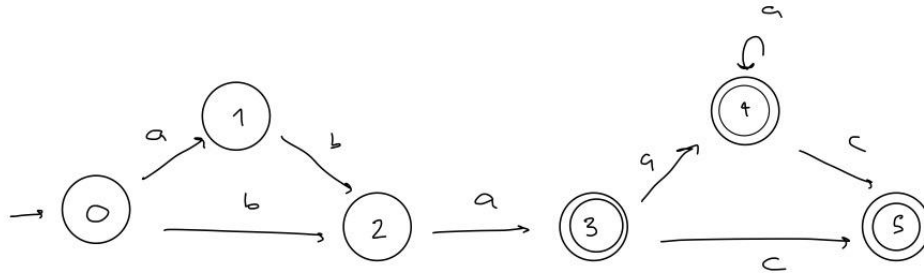
AFN



Estado	$\epsilon$	a	b	c
0	1, 2	-	-	-
1	-	2	-	-
2	5	-	-	-
3	4	-	-	-
4	5	-	-	-
5	-	-	6	-
6	-	7	-	-
7	8, 10	-	-	-
8	-	9	-	-
9	8, 10	-	-	-
10	11, 13	-	-	-
11	-	-	12	-
12	15	-	-	-
13	14	-	-	-
14	15	-	-	-
15	-	-	-	-

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**Pre Lab B**

AFD S



Estado	a	b	c
0	1	2	—
1	—	2	—
2	3	—	—
3	4	—	—
4	4	—	5
5	—	—	—