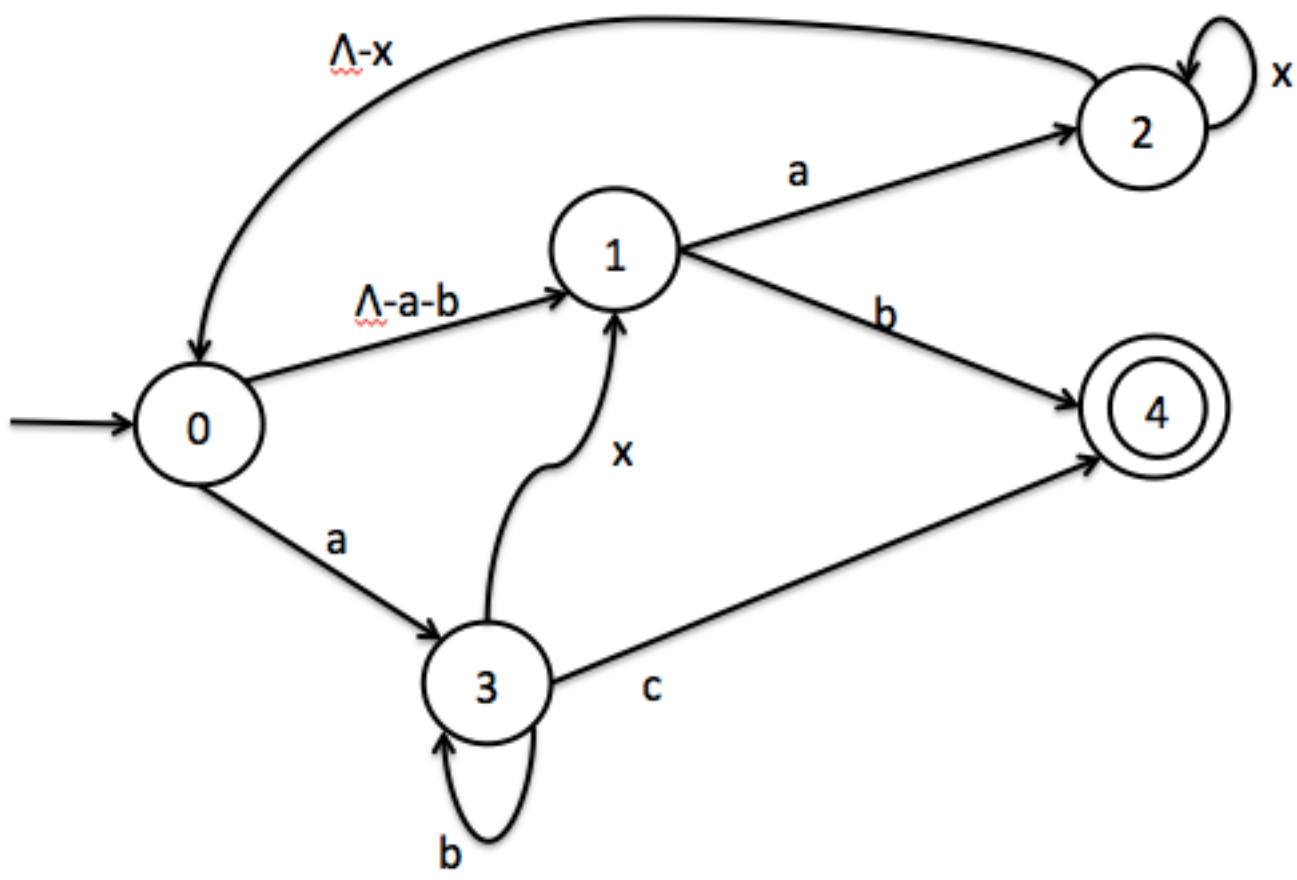
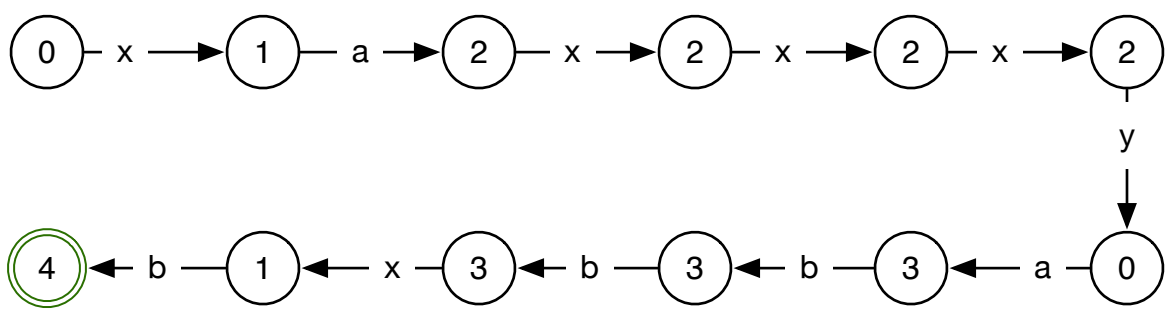
Victor A. Lora
CSI-345: Homework 2
Dr. Reyes
September 11, 2016



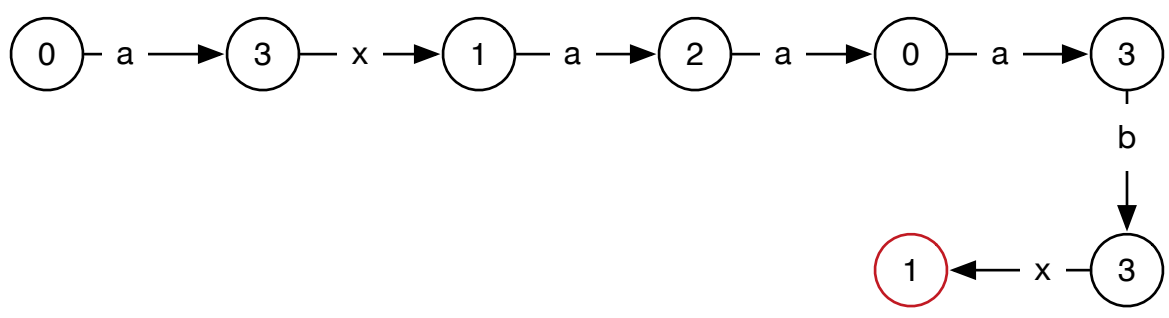
1. (10 points) Given is the following automaton
   1 Simulate the following input: “xaxxxyabbxb”. Is it accepting or non-accepting?

Accepting



   2 Simulate the following input: “axaaabx”. Is it accepting or non-accepting?

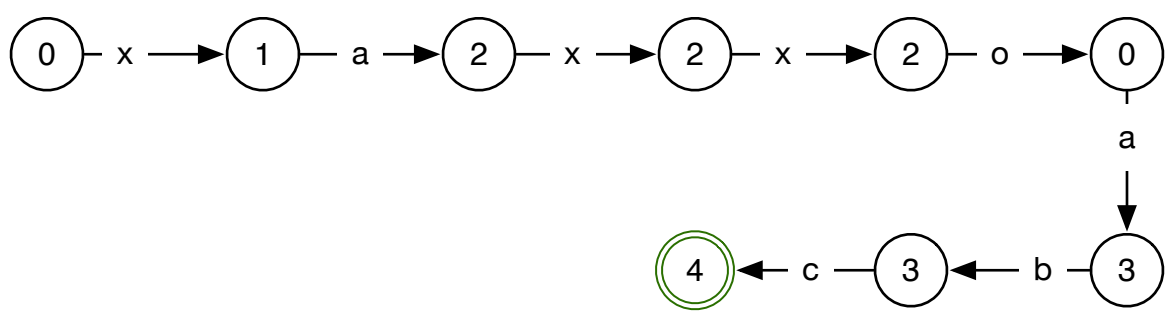
Non-Accepting



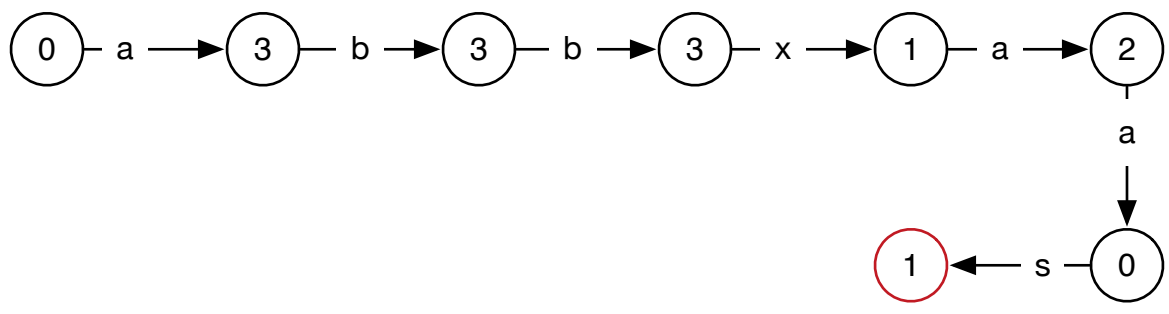
2. (20 points) Create a parse table for the previous automaton

	a	b	c	x	λ-x	λ-a-b
0	3	-1	1	1	-1	1
1	2	4	-1	-1	-1	-1
2	0	0	0	2	0	-1
3	-1	3	4	1	-1	-1
4	-1	-1	-1	-1	-1	-1

3. (10 points) With the use of the parse table you created in 2, parse:
   - xaxxoabc



   - abbxaas



4. (12 points) Using only union, concatenation and closure, write regular expressions for the following:
   1 All numbers of the senary system (base 6).
   (0|1|2|3|4|5)(0|1|2|3|4|5)*
   2 All binary strings that start with 101 and end with a 011 or 00.
   (101)(0|1)*(011|00)
   3 All words that start with letter w or x or z, end with a z or a ? and have at least 4 characters.
   (w|x|z)…*(az|a\?)