

Quiz 2

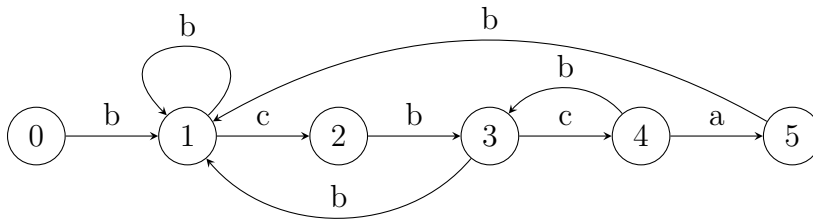
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Problem 1. The pattern P , alphabet Σ and text T is given for a string matching problem. Find the state transition diagram, state transition table and current state values (q) to find matched pattern in the text and find the valid shifts.

$P = \text{bcbca}$
 $\Sigma = \{\text{a, b, c, d}\}$
 $T = \text{bcbcd bcbcbcad}$

State transition diagram:



State transition table:

State	a	b	c	d
0	0	1	0	0
1	0	1	2	0
2	0	3	0	0
3	0	1	4	0
4	5	3	0	0
5	0	1	0	0

Current state values:

i	0	1	2	3	4	5	6	7	8	9	10	11	12	13
T[i]		b	c	b	c	d	b	c	b	c	b	c	a	d
q	0	1	2	3	4	0	1	2	3	4	3	4	5	0

one valid shift at $i = 12 \rightarrow \text{shift of } i - m = 12 - 5 = 7$.