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Theory of Computation HW 3

(1)

	Automaton 1	Automaton 2
$x \in L(N)$	cc	bc
	ab	bbbc
$x \notin L(N)$	a	b
	acc	bbbca
$x \in L_w(N)$	c^w	$bc(abc)^w$
	$(ab)^w$	$bbbc(abc)^w$
$x \notin L_w(N)$	ac^w	b^w
	$c^n ac^w \quad n \in [0, \infty)$	$bcab^w$

(2) Taking the complement of an NBA involves an exponential blow-up of states