

# Reverse Engineering a State Machine

## Part A

$S_1$	$S_0$	$Y$	$X$	$NS_1$	$NS_0$	$B$	$A$
0	0	0	0	0	1	0	0
0	0	0	1	1	0	0	0
0	0	1	0	0	1	0	0
0	0	1	1	1	0	0	0
0	1	0	0	0	0	0	0
0	1	0	1	1	0	1	0
0	1	1	0	1	0	0	0
0	1	1	1	1	0	1	0

$S_1$	$S_0$	$Y$	$X$	$NS_1$	$NS_0$	$B$	$A$
1	0	0	0	0	1	0	0
1	0	0	1	1	0	0	0
1	0	1	0	0	1	0	0
1	0	1	1	1	0	0	0
1	1	0	0	0	1	0	1
1	1	0	1	1	0	0	1
1	1	1	0	1	1	0	0
1	1	1	1	1	0	0	1

## Part B

