[nex87] Modeling a Markov chain

If the following sequence of states observed in a system for the duration of 50 transitions is a Markov process, what would be a reasonable model for its transition matrix $\mathbf{W}$? Given your model, determine the stationary distribution (π_0, π_1) of $\mathbf{W}$ and compare it with the frequency of states 0 and 1 occurring in the observed sequence.

Observed sequence (to be read in five rows from left to right):

0	1	0	1	1	1	0	1	0	0	1
	0	1	0	1	0	1	1	1	1	0
	1	0	0	1	0	1	1	0	0	1
	0	1	1	0	1	0	0	0	1	0
	1	1	0	0	1	1	0	1	1	0

Solution: