

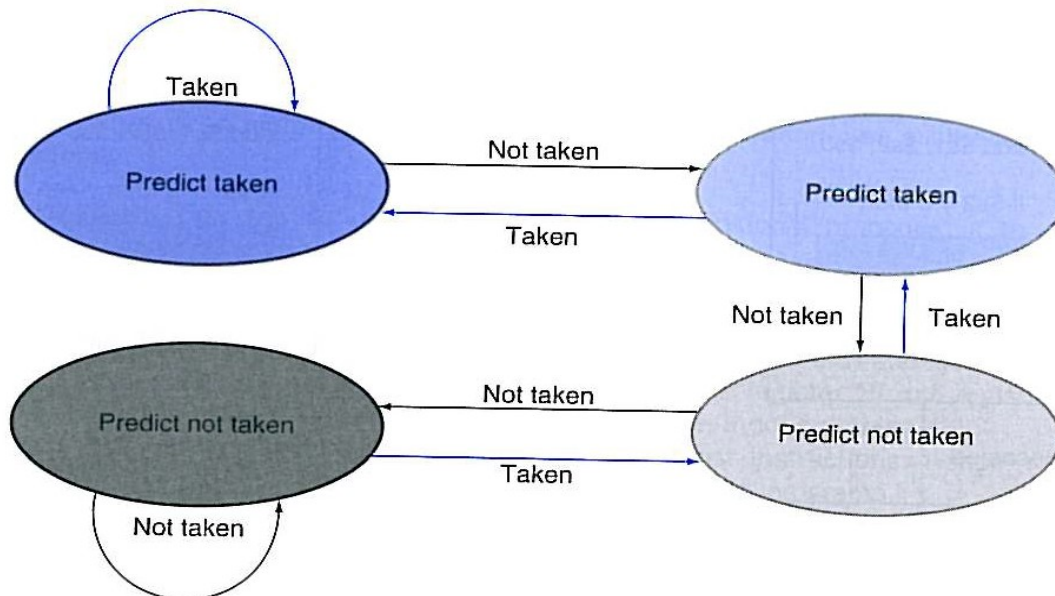
Exercise 4.24

This exercise examines the accuracy of various branch predictors for the following repeating pattern (e.g., in a loop) of branch outcomes:

Branch Outcomes	
a.	T, T, NT, T
b.	T, T, T, NT, NT

4.24.1 [5] <4.8> What is the accuracy of always-taken and always-not-taken predictors for this sequence of branch outcomes?

4.24.2 [5] <4.8> What is the accuracy of the two-bit predictor for the first 4 branches in this pattern, assuming that the predictor starts off in the bottom left state from Figure 4.63 (predict not taken) ?



4.24.3 [10] <4.8> What is the accuracy of the two-bit predictor if this pattern is repeated forever?