The Theory of Computation

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Solution Manual

Chapter 4, Problem 5.14

The model does not really differ at all from the conventional RAM; we just assume that all values are coded in unary. That being the case, there is no question at all that incrementation and decrementation take constant time, since they consist of adding one symbol to or removing one symbol from a string of identical symbols. Simulation of a binary RAM by a unary RAM is trivial, since we have the same set of instructions; if we lack addition, we can implement it with the program of Figure 4.5.