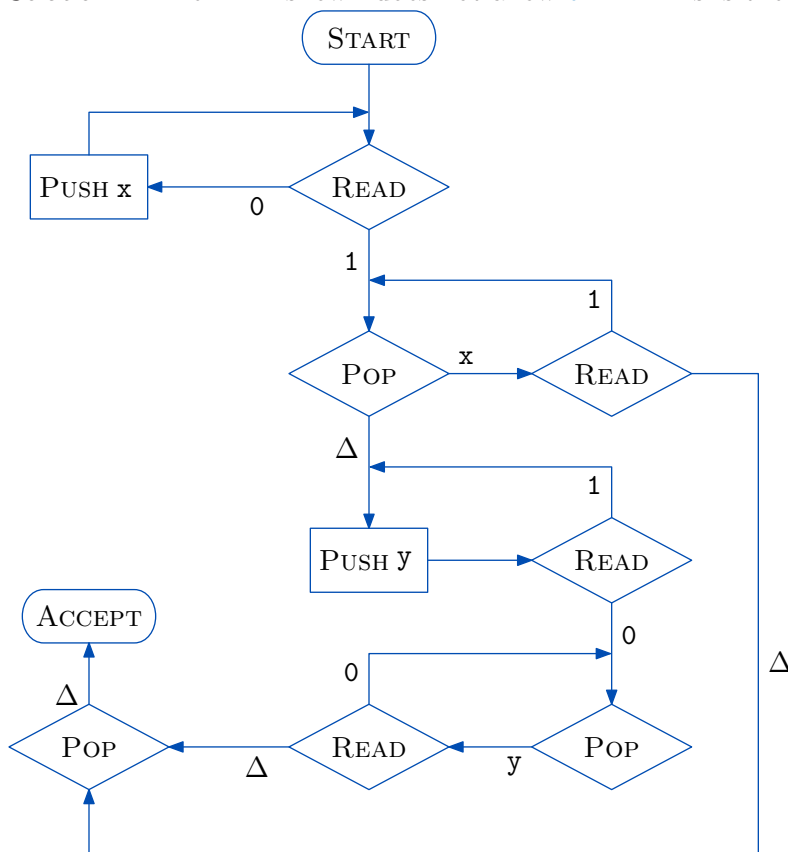


**Corrections to first printing of:
Introducing the Theory of Computation
Wayne Goddard**

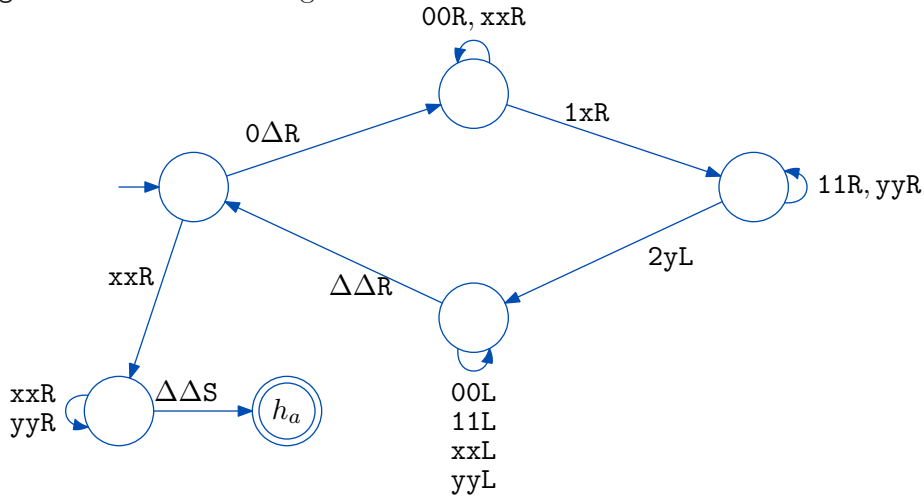
1. page vi line 9: “each of” should be “four of”
2. page 28 example 3.9: third line “A” should be “B”
3. pages 37 and 38: from the Theorem on page 37 to the end of the section, “FA” should be “DFA” throughout
4. page 56 example 6.5: The first line of the grammar should read $S \rightarrow A | B | C | \varepsilon$
5. page 57 example 6.7: third line should be “ $VP \rightarrow V NP$ ”
6. page 59 example 6.10: penultimate line should be “ $T \rightarrow TV | \varepsilon$ ”
7. page 70 For you to do number 1: Line should end “ $a \geq b > 0$ ”
8. page 72 Solution 2: The PDA shown does not allow $0^n 1^n$. This is the correct one:



9. page 77 last line: should be “finite sets of $Q \times (\Gamma \cup \{\Delta\})^*$ ”
10. page 78: in 10th line from bottom, “[q_0, Δ, h_a]” should be $\boxed{q_0 \Delta h_a}$ ”
11. page 97 line before Example 10.4: “nonterminal” should be “terminal”
12. page 105: 1st two lines of grammar should have been:
- $$S \rightarrow RL$$
- $$L \rightarrow LF \mid \mathbf{v}$$

In the table, the entries in row 2 column 2, row 4 column 4, and row 6 column 6, should be “ L, I ” (not just “ I ”)

13. page 121: the TM is wrong. This is the correct one:



14. page 144: proof at top of page: in three places “ $\langle M' \rangle$ ” should be just “ M' ”:

By contradiction. Suppose there exists a TM that accepts this language; call it M' . Does the machine M' accept $\langle M' \rangle$? Well, $\langle M' \rangle$ is in S_{tm} if and only if M' does not accept $\langle M' \rangle$. That is, M' accepts $\langle M' \rangle$ if and only if M' does not accept $\langle M' \rangle$. A contradiction. Because the logic is correct, the problem must be that the supposition is false: M' does not exist.

15. page 163: penultimate line of Proof: “old1reason” should be “old reason”
16. page 166: “For you to do” Exercise solutions 1: “*sub*” should be “*monus*” in each case
17. page 172 paragraph before 17.2: “by a constant factor” should be “by a logarithmic factor”

18. page 185: 8th line from bottom, " $\mathcal{NL} \subseteq P$ " should be " $\mathcal{NL} \subseteq \mathcal{P}$ "
19. page 195 Exercise 19.13c: in first line it should be "the problem from (b) is \mathcal{NP} -complete"