

Questions for EZQuiz 5

- State a theorem about eliminating productions from context-free grammars. Solution: Theorem 6.5, page 160.
- Section 6.1, exercise 8 (page 162).
- Section 6.2, exercise 5 (page 169).
- Define *npda*. Solution: definition 7.1, page 177.
- Let $M = (Q, \Sigma, \Gamma, \delta, q_0, z, F)$ be an npda. Define the language accepted by M , using mathematical notation. Solution: definition 7.2, page 180.
- Describe the relationship between context-free languages and npdas. Solution: every context free language is the language of some npda, and every language accepted by an npda is context-free. (This combines theorems 7.1 and 7.2.)
- State the common set operations under which context-free languages are closed. Solution: Theorem 8.3, page 214.
- State the common set operations under which context-free languages are not closed. Solution: Theorem 8.4, page 215.
- Example 8.7, page 217.
- State two decidable properties of context-free languages. Solution: (i) is the language empty? (ii) is the language infinite? (This combines theorems 8.6 and 8.7, page 218.)
- Define *Turing machine*. Solution: definition 9.1, page 223.
- Let $M = (Q, \Sigma, \Gamma, \delta, q_0, \square, F)$ be a Turing machine. Define the language accepted by M , using mathematical notation. Solution: definition 9.3, page 229.
- Section 9.1, Exercise 7(a), page 236.