

**P240.**

**Exercises for Section 4.5**

**Exercise 4.5.1:** For the grammar  $S \rightarrow 0 S 1 \mid 0 1$  of Exercise 4.2.2(a), indicate the handle in each of the following right-sentential forms:

- a) 000111
- b) 00S11

**Exercise 4.5.2:** Repeat Exercise 4.5.1 for the grammar  $S \rightarrow S S + \mid S S^* \mid a$  of Exercise 4.2.1 and the following right-sentential forms:

- a) SSS+a\*+
- b) SS+a\*a+
- c) aaa\*a++

**Exercise 4.5.3:** Give bottom-up parses for the following input strings and grammars:

- a) The input 000111 according to the grammar of Exercise 4.5.1.
- b) The input aaa\*a++ according to the grammar of Exercise 4.5.2.