13.3 Finite-State Machines with No Output

13.3 pg. 975 # 1

Let $A = \{0, 11\}$ and $B = \{00, 01\}$. Find each of these sets.

a) AB

b) BA

c) A^2

13.3 pg. 975 # 5

Describe the elements of the set A^* for these values of A.

a) $\{10\}$

b) $\{111\}$

c) $\{0, 01\}$

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Determine whether the string 11101 is in each of these sets.

a) $\{0, 1\}^*$

b) $\{1\}^*\{0\}^*\{1\}^*$

c) $\{11\}\{0\}^*\{01\}$

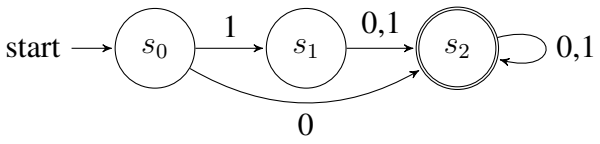
d) $\{11\}^*\{01\}^*$

e) $\{111\}^*\{0\}^*\{1\}$

f) $\{11, 0\}\{00, 101\}$

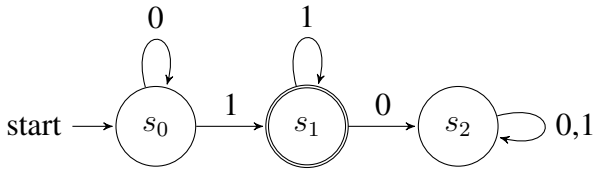
13.3 pg. 876 # 17

Find the language recognized by the given deterministic finite-state automaton.



13.3 pg. 876 # 19

Find the language recognized by the given deterministic finite-state automaton.



13.3 pg. 876 # 23

Construct a deterministic finite-state automaton that recognizes the set of all bit strings beginning with 01.

13.3 pg. 876 # 27

Construct a deterministic finite-state automaton that recognizes the set of all bit strings that contain exactly three 0s.

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Find the language recognized by the given nondeterministic finite-state automaton.