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編譯器 H.W.2.

1. ① aabba.

$S_1 = \varepsilon\text{-closure}(\{1\}) = \{1,2,6\}$

$S_2 = \varepsilon\text{-closure}(\text{move}(\{1,2,6\}, a)) = \varepsilon\text{-closure}(\{2,3,7\}) = \{2,3,7,10\}$

$S_3 = \varepsilon\text{-closure}(\text{move}(\{2,3,7,10\}, a)) = \varepsilon\text{-closure}(\{2,3,5\}) = \{2,3,5,6,8\}$

$S_4 = \varepsilon\text{-closure}(\text{move}(\{2,3,5,6,8\}, b)) = \varepsilon\text{-closure}(\{4,8,9\}) = \{4,8,9,5,6\}$

$S_5 = \varepsilon\text{-closure}(\text{move}(\{4,5,6,8,9\}, b)) = \varepsilon\text{-closure}(\{2,8,9\}) = \{2,8,9\}$

$S_6 = \varepsilon\text{-closure}(\text{move}(\{2,8,9\}, a)) = \varepsilon\text{-closure}(\{2,3,9\}) = \{2,3,9\}$.

$\{2,3,9\} \cap \{9,10\} \neq \phi$.

② aabab.

$S_1 = \varepsilon\text{-closure}(\{1\}) = \{1,2,6\}$

$S_2 = \varepsilon\text{-closure}(\text{move}(\{1,2,6\}, a)) = \varepsilon\text{-closure}(\{2,3,7\}) = \{2,3,7,10\}$

$S_3 = \varepsilon\text{-closure}(\text{move}(\{2,3,7,10\}, a)) = \varepsilon\text{-closure}(\{2,3,5\}) = \{2,3,5,6,8\}$

$S_4 = \varepsilon\text{-closure}(\text{move}(\{2,3,5,6,8\}, b)) = \varepsilon\text{-closure}(\{4,8,9\}) = \{4,8,9,5,6\}$

$S_5 = \varepsilon\text{-closure}(\text{move}(\{4,5,6,8,9\}, a)) = \varepsilon\text{-closure}(\{7,9\}) = \{7,9,10\}$

$S_6 = \varepsilon\text{-closure}(\text{move}(\{7,9,10\}, b)) = \varepsilon\text{-closure}(\{10\}) = \{10\}$

$\{10\} \cap \{9,10\} \neq \phi$.

2. ① aabba.

$s_1 = 1$

$s_2 = move(1, a) = 2$

$s_3 = move(2, a) = 2$

$s_4 = move(2, b) = 4$

$s_5 = move(4, b) = 7$

$s_6 = move(7, a) = 7$

$7 \in \{7, 8\}$.

② aabab.

$s_1 = 1$

$s_2 = move(1, a) = 2$.

$s_3 = move(2, a) = 2$.

$s_4 = move(2, b) = 4$

$s_5 = move(4, a) = 8$

$s_6 = move(8, b) = 8$.

$8 \in \{7, 8\}$.