

$$1. (0+\varepsilon)(0+\varepsilon)(0+\varepsilon)(\varepsilon+1)(\varepsilon+1)(\varepsilon+1)$$

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$$2. (0+11^*00)^*(11^*+\varepsilon)$$

$$3. (00^*11^*0+11^*00^*1)(0+1)^*$$

$$4. (10+01)^*$$

$$5. 1^*(0(1+11))^*(1^*+0)$$

作业3

$$\begin{aligned} \checkmark \quad S &\rightarrow DE \mid D'E' & D &\rightarrow AB \mid BC & D' &\rightarrow A'B' \mid B'C' \\ & & E &\rightarrow \varepsilon \mid CE & A' &\rightarrow b \mid bA' & E' &\rightarrow \varepsilon \mid aE' \\ \text{可简化} & & A &\rightarrow a \mid aA & B' &\rightarrow \varepsilon \mid bB'C \\ \text{简化后} & & B &\rightarrow \varepsilon \mid aBb & C' &\rightarrow c \mid cC' \\ & & C &\rightarrow b \mid bC \end{aligned}$$

$$\checkmark \quad S \rightarrow A \mid B \mid AB \mid BA \quad A \rightarrow 0 \mid 0A0 \mid 0A1 \mid 1A0 \mid 1A1 \\ B \rightarrow 1 \mid 0B0 \mid 0B1 \mid 1B0 \mid 1B1$$

$$\checkmark \quad S \rightarrow S0S0S1S \mid S0S1S0S \mid S1S0S0S \mid \varepsilon$$

$$\checkmark \quad S \rightarrow ABCABCABC \quad A \rightarrow 0 \mid 0A \quad B \rightarrow 1 \mid 1B \quad C \rightarrow 2 \mid 2C$$

$$\checkmark \quad S \rightarrow \varepsilon \mid 01 \mid 0011 \mid A \quad A \rightarrow 00001111 \mid 0A1$$

