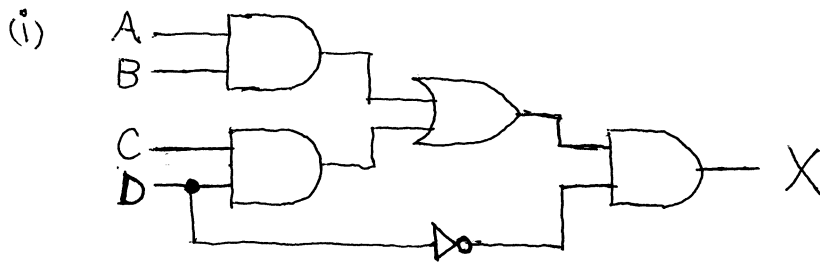


問題5 改の解答例



(ii)

$$\begin{aligned}
 X &= ((A \cdot B) + (C \cdot D)) \cdot \bar{D} \\
 &= (\overline{\overline{A \cdot B}} + \overline{\overline{C \cdot D}}) \cdot \bar{D} \\
 &= (\overline{A \cdot B} + \overline{C \cdot D}) \cdot \bar{D} \\
 &= \overline{(A \cdot B) \cdot (C \cdot D)} \cdot \bar{D} \\
 &= ((A \cdot B) \mid (C \cdot D)) \cdot \bar{D} \\
 &= \overline{((A \cdot B) \mid (C \cdot D)) \cdot (D \cdot D)} \\
 &= \overline{((A \cdot B) \mid (C \cdot D)) \mid (D \cdot D)} \\
 &= \{((A \cdot B) \mid (C \cdot D)) \mid (D \cdot D)\} \mid \{((A \cdot B) \mid (C \cdot D)) \mid (D \cdot D)\}
 \end{aligned}$$

ポイント
 コレを描く (全部展開しない方が楽)

$$\begin{cases}
 X \cdot Y \Leftrightarrow \text{AND gate with inputs X and Y} \\
 \bar{X} \Leftrightarrow \text{NOT gate with input X}
 \end{cases}$$

