

$$y_0 = \underbrace{(x_0 \wedge x_1 \wedge x_4)}_{\text{Necessarily true}} \wedge \underbrace{((\neg x_2 \wedge x_3) \vee (x_2 \wedge x_3) \vee (x_2 \wedge \neg x_3))}_{\text{Disjunction}} \quad (1)$$

$$y_1 = \underbrace{(x_0 \wedge x_4 \wedge x_1)}_{\text{Necessarily true}} \wedge \underbrace{((\neg x_2 \wedge x_3) \vee (x_2 \wedge x_3) \vee (x_2 \wedge \neg x_3))}_{\text{Disjunction}} \quad (2)$$

$$y_2 = \underbrace{(x_0 \wedge x_4 \wedge x_1 \wedge x_3)}_{\text{Necessarily true}} \wedge \underbrace{(\neg x_2 \vee x_2)}_{\text{Disjunction}} \quad (3)$$

$$y_3 = \underbrace{(x_1 \wedge x_0)}_{\text{Necessarily true}} \wedge \underbrace{((\neg x_2 \wedge x_3 \wedge x_4) \vee (x_2 \wedge \neg x_3 \wedge x_4) \vee (x_2 \wedge x_3 \wedge x_4) \vee (\neg x_2 \wedge x_3 \wedge \neg x_4))}_{\text{Disjunction}} \quad (4)$$

$$y_4 = \underbrace{\neg x_2}_{\text{Necessarily false}} \wedge \underbrace{(x_0 \wedge x_3 \wedge x_1 \wedge x_4)}_{\text{Necessarily true}} \quad (5)$$

$$y_5 = \underbrace{\neg x_3 \wedge \neg x_1 \wedge \neg x_4 \wedge \neg x_2 \wedge \neg x_0}_{\text{Necessarily false}} \quad (6)$$

$$y_6 = \underbrace{\neg x_2}_{\text{Necessarily false}} \wedge \underbrace{(x_0 \wedge x_3 \wedge x_1 \wedge x_4)}_{\text{Necessarily true}} \quad (7)$$

$$y_7 = \underbrace{(x_0 \wedge x_1 \wedge x_2 \wedge \neg x_3 \wedge x_4)}_{\text{Conjunction}} \vee \underbrace{(x_0 \wedge x_1 \wedge \neg x_2 \wedge \neg x_3 \wedge x_4)}_{\text{Conjunction}} \vee \underbrace{(x_0 \wedge x_1 \wedge \neg x_2 \wedge x_3 \wedge \neg x_4)}_{\text{Conjunction}} \vee \underbrace{(\neg x_0 \wedge \neg x_1 \wedge \neg x_2 \wedge \neg x_3 \wedge \neg x_4)}_{\text{Conjunction}} \quad (8)$$

$$y_8 = \underbrace{(x_0 \wedge x_1 \wedge x_4)}_{\text{Necessarily true}} \wedge \underbrace{((x_2 \wedge x_3) \vee (x_2 \wedge \neg x_3) \vee (\neg x_2 \wedge \neg x_3) \vee (\neg x_2 \wedge x_3))}_{\text{Disjunction}} \quad (9)$$