



Reducer flg. boolske udtryk:

$$F1 = AB + BC + A + ABC$$

$$F2 = \overline{ABC} + \overline{ABC}$$

$$F3 = AB + \overline{AB}$$

$$F4 = AC + AD + AB + ABC + ACD + ABD$$

$$F5 = \overline{\overline{ABC} + \overline{ABC}}$$

$$F6 = AC + \overline{AD} + \overline{AD}$$

$$F7 = \overline{\overline{A} \overline{B} \overline{CD}}$$

$$F8 = \overline{\overline{ACD}} + \overline{\overline{A} + \overline{D}}$$

$$F9 = \overline{BCD} + \overline{\overline{ACD}} + \overline{\overline{B} \overline{C}}$$

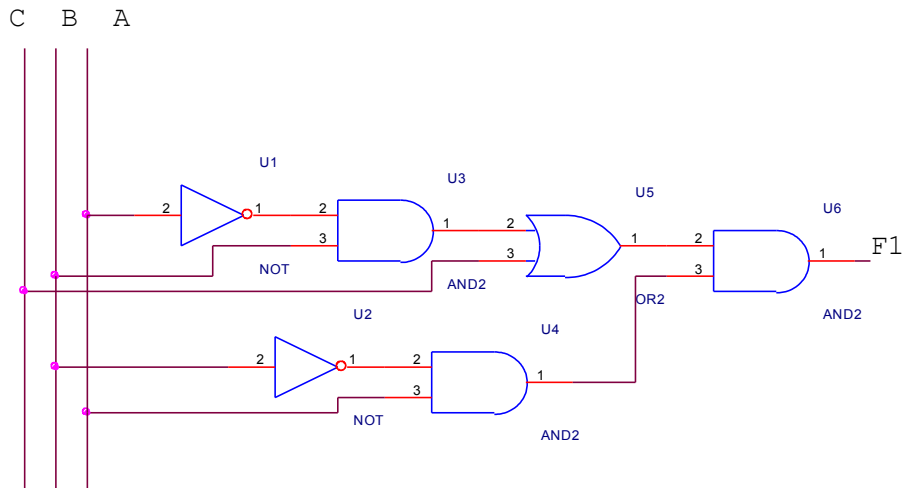
$$F10 = \overline{A} \overline{B} + \overline{ABC} + \overline{A} \cdot \overline{B} + AC \overline{B}$$



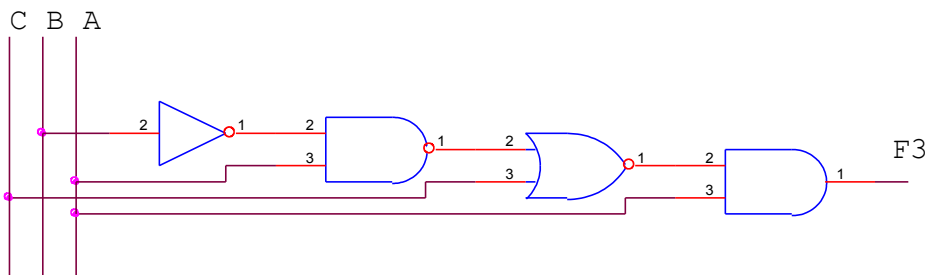
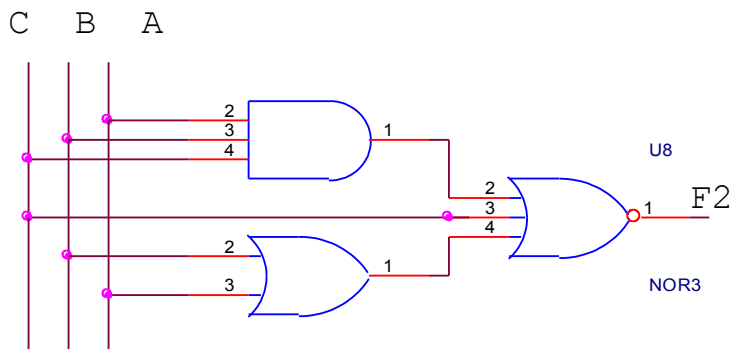
Opskriv hele det boolske udtryk

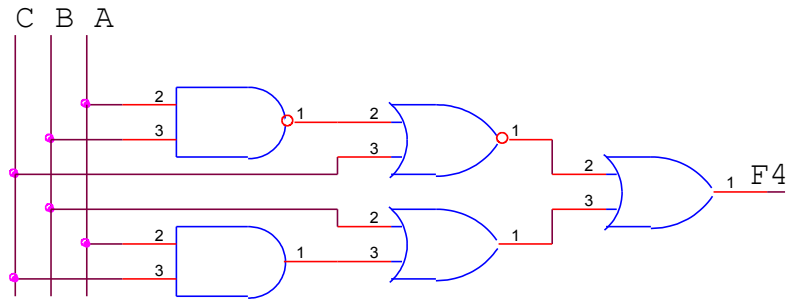
Reducer

Tjek evt. med sandhedsskema !



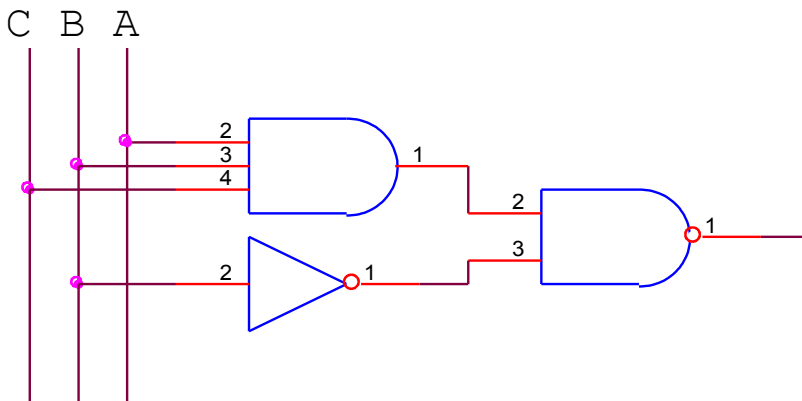
Kontroller vha sandhedstabel



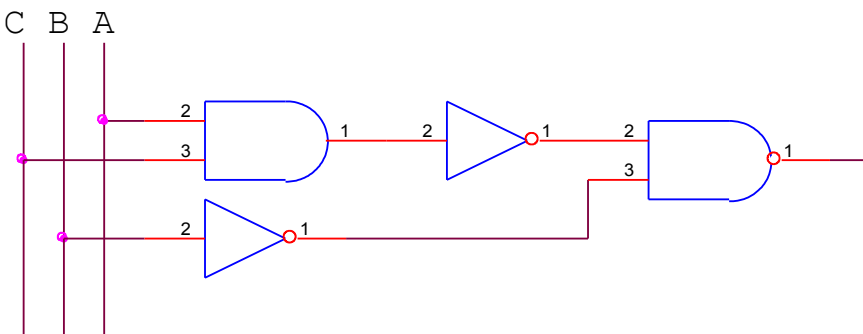


$$F5 = \overline{\overline{A + \overline{BC} + \overline{ABD}}}$$

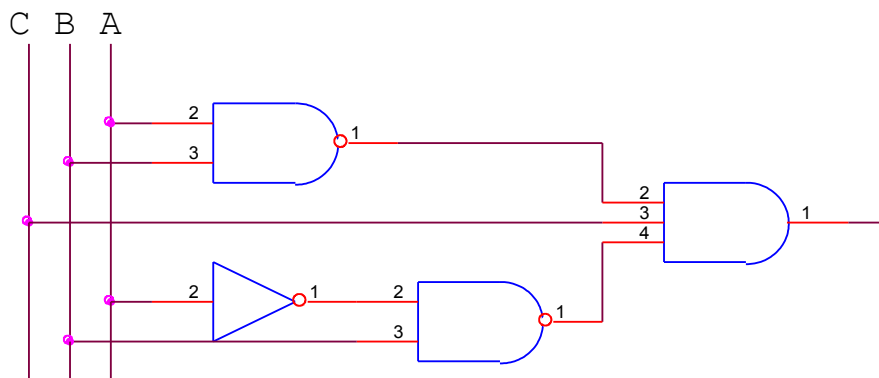
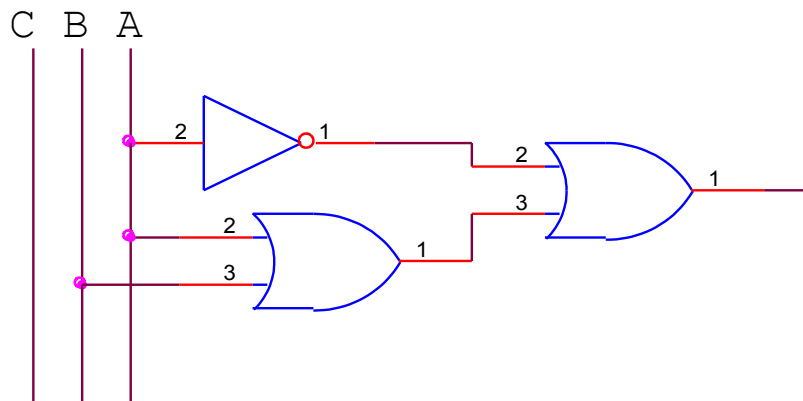
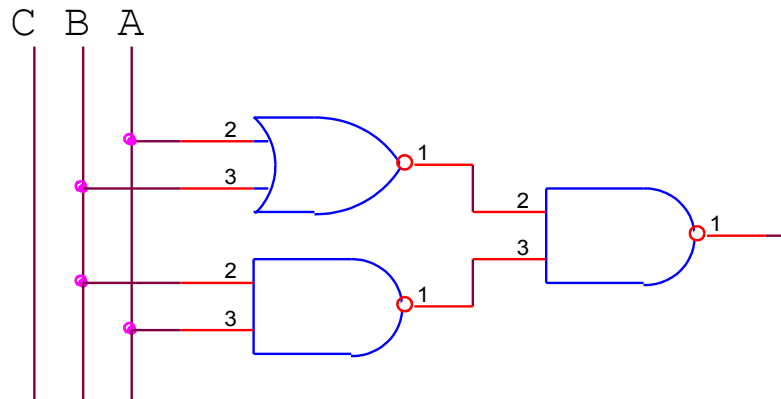
$$F6 = \overline{\overline{\overline{AB} \cdot \overline{CD}}}$$



F7 =



F8 =





Tegn kredsløbene:

$$\overline{\overline{A + B \cdot C}}$$

$$\overline{\overline{AC + B}}$$

$$\overline{\overline{AB + C}}$$

$$\overline{\overline{ABC}}$$

$$\overline{AB + C}$$

$$\overline{\overline{\overline{A \cdot B + C}}}$$

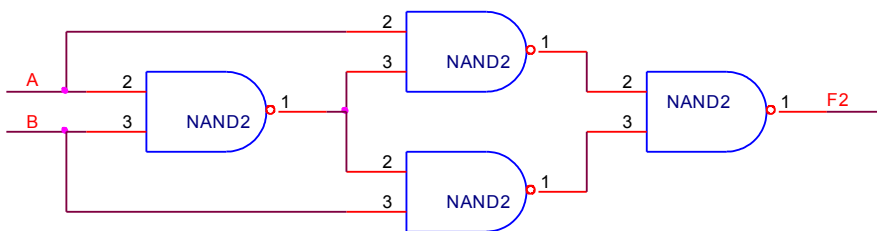
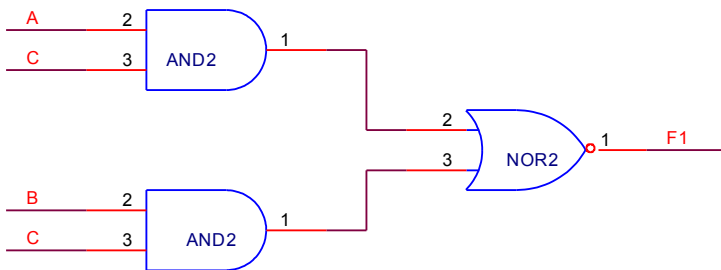
$$\overline{\overline{\overline{ABC}}}$$

$$\overline{\overline{ABC}}$$

$$\overline{A \cdot \overline{B} \overline{C}}$$

Reducer derefter, og tegn igen !

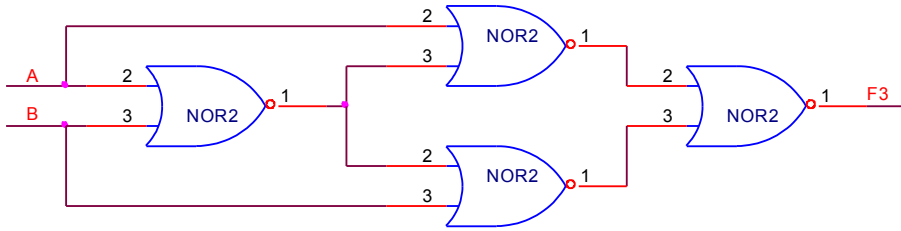
Find de boolske udtryk for følgende kredsløb.



Af: Valle Thorø

Udskrevet d. 24/08/2004 11:57:00 A8/P8

Fil.: Reduceringsopgaver.doc



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Reducer (hvis fordelagtig) følgende ligninger, og realiser, først med med 2 input Nandgates, og derefter med 2-input Norgates:

$$\overline{AB} + ABC$$

$$\overline{\overline{AB} + BC}$$

$$ABCD$$

$$\overline{\overline{A} \overline{B} \overline{C} \overline{D}}$$

$$\overline{\overline{A} B C}$$

Konverter til 2-input Nandgates og dernæst til 2-input Norgates:

$$A + B \overline{C}$$

$$\overline{AB} + ABC$$

$$A B C D$$

$$\overline{\overline{A} B + B C} \text{ (Sæt B udenfor !)}$$

$$\overline{\overline{\overline{A} \overline{B} \overline{C} \overline{D}} + \overline{\overline{A} B C}} \text{ (Reducer først !!)}$$

Reducer følgende:

$$F_1 = \overline{A} \overline{B} C + ABC + AB + \overline{A} B C + \overline{A} \overline{B} \overline{C}$$

$$F_2 = \overline{\overline{A} B} + \overline{A C}$$

$$F_3 = \overline{\overline{\overline{A} \overline{B} \overline{C}}} + \overline{\overline{A} B}$$

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$$F_4 = A B C + A \bar{B} \bar{C} + A \bar{B} + C$$

$$F_5 = \overline{\bar{A} + \bar{B} + C}$$