Seminar LC 4 – Exerciții

Să se obțină formele minime disjunctive și conjunctive ale funcțiilor complet/incomplete definite având expresiile de mai jos, folosindu-se metoda diagramelor Veitch–Karnaugh, respectiv metoda Quine.–McCluskey (doar pentru funcțiile complet definite).

(1)

$$f^{FCD}(x_1, x_2, x_3, x_4) = \sum(0, 2, 5, 7, 8, 10, 13, 14, 15).$$

$$\begin{cases} f^{FCD}(x_1, x_2, x_3, x_4) = \sum(0, 5, 8, 14), \\ d =*= 2 = 7 = 10 = 13 = 15. \end{cases}$$

(2)

$$f^{FCD}(x_1, x_2, x_3, x_4) = \sum(2, 3, 4, 5, 6, 7, 10, 11, 13).$$

$$\begin{cases} f^{FCD}(x_1, x_2, x_3, x_4) = \sum(2, 3, 4, 6, 7, 13), \\ d =*= 5 = 10 = 11. \end{cases}$$

(3)

$$f^{FCD}(x_1, x_2, x_3, x_4) = \sum(1, 4, 5, 6, 9, 13, 15).$$

$$\begin{cases} f^{FCD}(x_1, x_2, x_3, x_4) = \sum(1, 4, 6, 9, 13), \\ d =*= 5 = 15. \end{cases}$$

(4)

$$f^{FCD}(x_1, x_2, x_3, x_4) = \sum(1, 3, 4, 6, 9, 11, 13, 15).$$

$$\begin{cases} f^{FCD}(x_1, x_2, x_3, x_4) = \sum(1, 4, 9, 11, 13), \\ d =*= 3 = 6 = 15. \end{cases}$$

(5)

$$f^{FCD}(x_1, x_2, x_3, x_4) = \sum(3, 5, 7, 8, 10, 12, 13, 14).$$

$$\begin{cases} f^{FCD}(x_1, x_2, x_3, x_4) = \sum(3, 5, 10, 12, 13), \\ d =*= 7 = 8 = 9 = 14. \end{cases}$$

(6)

$$f^{FCD}(x_1, x_2, x_3, x_4) = \sum(0, 3, 5, 7, 8, 11, 13, 15).$$

$$\begin{cases} f^{FCD}(x_1, x_2, x_3, x_4) = \sum(3, 5, 8, 10, 13, 15), \\ d =*= 0 = 7 = 11. \end{cases}$$

(7)

$$f^{FCD}(x_1, x_2, x_3, x_4) = \sum(0, 2, 3, 6, 7, 8, 9, 10, 13).$$

$$\begin{cases} f^{FCD}(x_1, x_2, x_3, x_4) = \sum(0, 3, 7, 8, 9, 10, 13), \\ d =*= 2 = 6 = 15. \end{cases}$$

(8)

$$f^{FCD}(x_1, x_2, x_3, x_4) = \sum(1, 4, 6, 7, 9, 12, 14).$$

$$\begin{cases} f^{FCD}(x_1, x_2, x_3, x_4) = \sum(6, 7, 9, 12, 14), \\ d =*= 1 = 4 = 13. \end{cases}$$

(9)

$$f^{FCD}(x_1, x_2, x_3, x_4) = \sum(0, 1, 4, 5, 6, 9, 11, 13).$$

$$\begin{cases} f^{FCD}(x_1, x_2, x_3, x_4) = \sum(1, 5, 6, 9, 11), \\ d =*= 0 = 4 = 13. \end{cases}$$

(10)

$$f^{FCD}(x_1, x_2, x_3, x_4) = \sum(1, 3, 4, 5, 7, 9, 11, 13, 14, 15).$$

$$\begin{cases} f^{FCD}(x_1, x_2, x_3, x_4) = \sum(1, 3, 4, 7, 9, 11, 14, 15), \\ d =*= 5 = 13 = 15. \end{cases}$$