|  |  |
| --- | --- |
| 2≤| x1x2-x3x4x5|≤4 | | x1x2-x3x4x5|=1 |

Вариант 18

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| N |  |  |  |  |  | - |  |
| 0 | 00000 | 00 | 0 | *000* | 0 | 0 | 0 |
| 1 | 00001 | 00 | 0 | *001* | 1 | 1 | d |
| 2 | 00010 | 00 | 0 | *010* | 2 | 2 | 1 |
| 3 | 00011 | 00 | 0 | *011* | 3 | 3 | 1 |
| 4 | 00100 | 00 | 0 | *100* | 4 | 4 | 1 |
| 5 | 00101 | 00 | 0 | *101* | 5 | 5 | 0 |
| 6 | 00110 | 00 | 0 | *110* | 6 | 6 | 0 |
| 7 | 00111 | 00 | 0 | *111* | 7 | 7 | 0 |
| 8 | 01000 | 01 | 1 | *000* | 0 | 1 | d |
| 9 | 01001 | 01 | 1 | *001* | 1 | 0 | 0 |
| 10 | 01010 | 01 | 1 | *010* | 2 | 1 | d |
| 11 | 01011 | 01 | 1 | *011* | 3 | 2 | 1 |
| 12 | 01100 | 01 | 1 | *100* | 4 | 3 | 1 |
| 13 | 01101 | 01 | 1 | *101* | 5 | 4 | 1 |
| 14 | 01110 | 01 | 1 | *110* | 6 | 5 | 0 |
| 15 | 01111 | 01 | 1 | *111* | 7 | 6 | 0 |
| 16 | 10000 | 10 | 2 | *000* | 0 | 2 | 1 |
| 17 | 10001 | 10 | 2 | *001* | 1 | 1 | d |
| 18 | 10010 | 10 | 2 | *010* | 2 | 0 | 0 |
| 19 | 10011 | 10 | 2 | *011* | 3 | 1 | d |
| 20 | 10100 | 10 | 2 | *100* | 4 | 2 | 1 |
| 21 | 10101 | 10 | 2 | *101* | 5 | 3 | 1 |
| 22 | 10110 | 10 | 2 | *110* | 6 | 4 | 1 |
| 23 | 10111 | 10 | 2 | *111* | 7 | 5 | 0 |
| 24 | 11000 | 11 | 3 | *000* | 0 | 3 | 1 |
| 25 | 11001 | 11 | 3 | *001* | 1 | 2 | 1 |
| 26 | 11010 | 11 | 3 | *010* | 2 | 1 | d |
| 27 | 11011 | 11 | 3 | *011* | 3 | 0 | 0 |
| 28 | 11100 | 11 | 3 | *100* | 4 | 1 | d |
| 29 | 11101 | 11 | 3 | *101* | 5 | 2 | 1 |
| 30 | 11110 | 11 | 3 | *110* | 6 | 3 | 1 |
| 31 | 11111 | 11 | 3 | *111* | 7 | 4 | 1 |

Представление булевой функции в аналитическом виде.

КДНФ =

ККНФ =

Находим максимальные кубы

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 1.00001 v  2.00010 v  3.00100 v  4.01000 v  5.10000 v  6.00011 v  7.01010 v  8.01100 v  9.10001 v  10.10100 v  11.11000 v  12.01011 v  13.01101 v  14.10011 v  15.10101 v  16.10110 v  17.11001 v  18.11010 v  19.11100 v  20.11101 v  21.11110 v  22. 11111 v | 1. 000X1 v 1-6  2. X0001 v 1-9  3. 0001X v 2-6  4. 0X010 v 2-7  5. 0X100 v 3-8  6. X0100 v 3-10  7. 010X0 v 4-7  8. 01X00 v 4-8  9. X1000 v 4-11  10. 1000X v 5-9  11. 10X00 v 5-10  12. 1X000 v 5-11  13. 0X011 v 6-12  14. X0011 v 6-14  15. 0101X v 7-12  16. X1010 v 7-18  17. 0110X v 8-13  18. X1100 v 8-19  19. 100X1 v 9-14  20. 10X01 v 9-15  21. 1X001 v 9-17  22. 1010X v 10-15  23. 101X0 v 10-16  24. 1X100 v 10-19  25. 1100X v 11-17  26. 110X0 v 11-18  27. 11X00 v 11-19  28. X1101 v 13-20  29. 1X101 v 15-20  30. 1X110 v 16-21  31. 11X01 v 17-20  32. 11X10 v 18-21  33. 1110X v 19-20  34. 111X0 v 19-21  35. 111X1 v 20-22  36. 1111X v 21-22 | 1. X00X1 1-19 2-14  2. 0X01X 3-15 4-13  3. XX100 5-24 6-18  4. X10X0 7-26 9-16  5. X1X00 8-27 9-18  6. 10X0X v 10-22 11-20  7. 1X00X v 10-25 12-21  8. 1XX00 v 11-27 12-24  9. X110X 17-33 18-28  10. 1XX01 v 20-31 21-29  11. 1X10X v 22-33 24-29  12. 1X1X0 23-34 24-30  13. 11X0X v 25-33 27-31  14. 11XX0 26-34 27-32  15. 111XX 33-36 34-35 | 1. 1XX0X 6-13  7-11  8-10 | 1XX0X  X00X1  0X01X  XX100  X10X0  X1X00  X110X  1X1X0  11XX0  111XX |

Составление импликантной таблицы

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Простые штуки | 0-кубы | | | | | | | | | | | | | | |
| 0  0  0  1  0 | 0  0  0  1  1 | 0  0  1  0  0 | 0  1  0  1  1 | 0  1  1  0  0 | 0  1  1  0  1 | 1  0  0  0  0 | 1  0  1  0  0 | 1  0  1  0  1 | 1  0  1  1  0 | 1  1  0  0  0 | 1  1  0  0  1 | 1  1  1  0  1 | 1  1  1  1  0 | 1  1  1  1  1 |
| 1XX0X |  |  |  |  |  |  | \* | \* | \* |  | \* | \* | \* |  |  |
| X00X1 |  | \* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 0X01X | \* | \* |  | \* |  |  |  |  |  |  |  |  |  |  |  |
| XX100 |  |  | \* |  | \* |  |  | \* |  |  |  |  |  |  |  |
| X10X0 |  |  |  |  |  |  |  |  |  |  | \* |  |  |  |  |
| X1X00 |  |  |  |  | \* |  |  |  |  |  | \* |  |  |  |  |
| X110X |  |  |  |  | \* | \* |  |  |  |  |  |  | \* |  |  |
| 1X1X0 |  |  |  |  |  |  |  | \* |  | \* |  |  |  | \* |  |
| 11XX0 |  |  |  |  |  |  |  |  |  |  | \* |  |  | \* |  |
| 111XX |  |  |  |  |  |  |  |  |  |  |  |  | \* | \* | \* |

Ядро покрытия является минимальным покрытием функции

(наоборот!)