Домашняя Работа №5 по Дискретной Математике

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Группа 191-322

Вариант - 27

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Московский Политех 2020

**Задача 8.27**

f1 = 0001001100011111; f2 = 1101101011010010; f3 = 1–1– – – – – 0–010101

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| N | xyzw | f1 | f2 | f3 |
| 0 | 0000 | 0 | 1 | 1 |
| 1 | 0001 | 0 | 1 | - |
| 2 | 0010 | 0 | 0 | 1 |
| 3 | 0011 | 1 | 1 | - |
| 4 | 0100 | 0 | 1 | - |
| 5 | 0101 | 0 | 0 | - |
| 6 | 0110 | 1 | 1 | - |
| 7 | 0111 | 1 | 0 | - |
| 8 | 1000 | 0 | 1 | 0 |
| 9 | 1001 | 0 | 1 | - |
| 10 | 1010 | 0 | 0 | 0 |
| 11 | 1011 | 1 | 1 | 1 |
| 12 | 1100 | 1 | 0 | 0 |
| 13 | 1101 | 1 | 0 | 1 |
| 14 | 1110 | 1 | 1 | 0 |
| 15 | 1111 | 1 | 0 | 1 |

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | -z | | z | |  |
| **z w**  **0 0** | **z w**  **0 1** | **z w**  **1 1** | **z w**  **1 0** |
| -x | **x y**  **0 0** | 0 | 0 | 1 | 0 | -y |
| **x y**  **0 1** | 0 | 0 | 1 | 1 | y |
| x | **x y**  **1 1** | 1 | 1 | 1 | 1 |
| **x y**  **1 0** | 0 | 0 | 1 | 0 | -y |
|  | | w | -w | | w |  |

**МДНФ:**

МДНФ:

f1 (x,y,z,w) = xy V yz V z’w

МКНФ:

f1 (x,y,z,w) = (‘x’y) (‘y’z) (‘zw)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | -z | | z | |  |
| **z w**  **0 0** | **z w**  **0 1** | **z w**  **1 1** | **z w**  **1 0** |
| -x | **x y**  **0 0** | 1 | 1 | 1 | 0 | -y |
| **x y**  **0 1** | 1 | 0 | 0 | 1 | y |
| x | **x y**  **1 1** | 0 | 0 | 0 | 1 |
| **x y**  **1 0** | 1 | 1 | 1 | 0 | -y |
|  | | w | -w | | w |  |

МДНФ:

f2 (x,y,z,w) = ’y’z V ‘xyw V ‘yz’w V yzw

МКНФ:

f2 (x,y,z,w) = (yz) (x’y’w) (y’zw) (‘y’z’w)

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  | | -z | | z | |  |
| **z w**  **0 0** | **z w**  **0 1** | **z w**  **1 1** | **z w**  **1 0** |  |
| -x | **x y**  **0 0** | 1 | - | - | 1 | -y |
| **x y**  **0 1** | - | - | - | - | y |
| x | **x y**  **1 1** | - | 1 | 1 | 0 |
| **x y**  **1 0** | 0 | 0 | 1 | 0 | -y |
|  | | w | -w | | w |  |

МДНФ:

f3 (x,y,z,w) = xy’w V xz’w V ‘x’yw

МКНФ:

f3 (x,y,z,w) = (‘x’yw) (‘x’zw) (xy’w)