

Упрощение СДНФ (4 переменные)

Упростить совершенную дизъюнктивную нормальную форму.

Задача 18.1.

6

$$\bar{x}\bar{y}\bar{z}w \vee \bar{x}\bar{y}zw \vee x\bar{y}\bar{z}\bar{w} \vee x\bar{y}z\bar{w} \vee x\bar{y}zw \vee xyzw$$

Задача 18.2.

6

$$\bar{x}\bar{y}\bar{z}w \vee \bar{x}\bar{y}zw \vee \bar{x}y\bar{z}\bar{w} \vee \bar{x}y\bar{z}w \vee \bar{x}yzw \vee xy\bar{z}\bar{w} \vee xy\bar{z}w \vee xyz\bar{w}$$

Задача 18.3.

6

$$\bar{x}\bar{y}\bar{z}w \vee \bar{x}y\bar{z}w \vee \bar{x}yzw \vee x\bar{y}\bar{z}\bar{w} \vee x\bar{y}\bar{z}w \vee x\bar{y}z\bar{w} \vee x\bar{y}zw \vee xyz\bar{w}$$

Задача 18.4.

6

$$\bar{x}\bar{y}z\bar{w} \vee \bar{x}y\bar{z}\bar{w} \vee \bar{x}y\bar{z}w \vee x\bar{y}\bar{z}\bar{w} \vee x\bar{y}\bar{z}w \vee xy\bar{z}\bar{w} \vee xyzw$$

Задача 18.5.

6

$$\bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee x\bar{y}z\bar{w} \vee x\bar{y}zw \vee xy\bar{z}\bar{w} \vee xy\bar{z}w$$

Задача 18.6.

6

$$\bar{x}\bar{y}\bar{z}w \vee \bar{x}y\bar{z}w \vee \bar{x}yz\bar{w} \vee \bar{x}yzw \vee x\bar{y}\bar{z}\bar{w} \vee xy\bar{z}\bar{w} \vee xyz\bar{w} \vee xyzw$$

Задача 18.7.

6

$$\bar{x}\bar{y}\bar{z}w \vee \bar{x}y\bar{z}w \vee \bar{x}yz\bar{w} \vee \bar{x}yzw$$

Задача 18.8.

6

$$\bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}z\bar{w} \vee \bar{x}yz\bar{w} \vee \bar{x}yzw \vee xyz\bar{w} \vee xyzw$$

Задача 18.9.

6

$$\bar{x}\bar{y}\bar{z}w \vee \bar{x}\bar{y}zw \vee \bar{x}y\bar{z}\bar{w} \vee \bar{x}y\bar{z}w \vee \bar{x}yzw \vee x\bar{y}\bar{z}\bar{w} \vee x\bar{y}zw \vee xy\bar{z}\bar{w} \vee xy\bar{z}w \vee xyzw$$

Задача 18.10.

6

$$\bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee x\bar{y}z\bar{w} \vee x\bar{y}zw \vee xy\bar{z}\bar{w} \vee xy\bar{z}w \vee xyz\bar{w} \vee xyzw$$

Задача 18.11.

6

$$\bar{x}\bar{y}\bar{z}w \vee \bar{x}\bar{y}zw \vee \bar{x}y\bar{z}w \vee \bar{x}yzw \vee x\bar{y}\bar{z}w \vee x\bar{y}zw \vee xy\bar{z}\bar{w} \vee xy\bar{z}w \vee xyzw$$

Задача 18.12.

6

$$\bar{x}\bar{y}zw \vee \bar{x}y\bar{z}\bar{w} \vee \bar{x}y\bar{z}w \vee x\bar{y}zw \vee xy\bar{z}w$$

Задача 18.13.

6

$$\bar{x}y\bar{z}\bar{w} \vee \bar{x}y\bar{z}w \vee x\bar{y}zw \vee xy\bar{z}\bar{w} \vee xy\bar{z}w$$

Задача 18.14.

6

$$\bar{x}y\bar{z}\bar{w} \vee \bar{x}y\bar{z}w \vee x\bar{y}zw \vee xy\bar{z}w \vee xyzw$$

Задача 18.15.

6

$$\bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee \bar{x}y\bar{z}w \vee x\bar{y}\bar{z}\bar{w} \vee x\bar{y}\bar{z}w \vee x\bar{y}zw \vee xyzw$$

Задача 18.16.

6

$$\bar{x}\bar{y}zw \vee \bar{x}y\bar{z}\bar{w} \vee \bar{x}y\bar{z}w \vee x\bar{y}\bar{z}\bar{w} \vee x\bar{y}\bar{z}w \vee xyz\bar{w} \vee xyzw$$

Задача 18.17.

6

$$\bar{x}\bar{y}\bar{z}w \vee \bar{x}\bar{y}zw \vee \bar{x}yz\bar{w} \vee \bar{x}yzw \vee x\bar{y}\bar{z}w \vee x\bar{y}zw \vee xyz\bar{w} \vee xyzw$$

Задача 18.18.

6

$$\bar{x}\bar{y}\bar{z}w \vee \bar{x}\bar{y}zw \vee \bar{x}yz\bar{w} \vee \bar{x}yzw \vee x\bar{y}\bar{z}w$$

Задача 18.19.

6

$$\bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee x\bar{y}\bar{z}w \vee x\bar{y}z\bar{w} \vee x\bar{y}zw$$

Задача 18.20.

6

$$\bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee \bar{x}yz\bar{w} \vee \bar{x}yzw \vee \bar{x}yzw \vee x\bar{y}\bar{z}w \vee xyzw$$

Задача 18.21.

6

$$\bar{x}\bar{y}\bar{z}\bar{w} \vee \bar{x}\bar{y}z\bar{w} \vee \bar{x}yzw \vee xyz\bar{w} \vee xyzw$$

Задача 18.22.

6

$$\bar{x}\bar{y}\bar{z}w \vee \bar{x}\bar{y}zw \vee x\bar{y}\bar{z}\bar{w} \vee x\bar{y}z\bar{w} \vee x\bar{y}zw \vee xyzw$$

Задача 18.23.

6

$$\bar{x}\bar{y}\bar{z}\bar{w} \vee \bar{x}\bar{y}\bar{z}w \vee \bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee \bar{x}yz\bar{w} \vee \bar{x}yzw \vee \bar{x}yzw \vee x\bar{y}\bar{z}\bar{w}$$

Задача 18.24.

6

$$\bar{x}\bar{y}zw \vee x\bar{y}\bar{z}w \vee xyzw$$

Задача 18.25.

6

$$\bar{x}y\bar{z}w \vee \bar{x}yz\bar{w} \vee xy\bar{z}w$$

Задача 18.26.

6

$$\bar{x}\bar{y}z\bar{w} \vee \bar{x}y\bar{z}\bar{w} \vee \bar{x}y\bar{z}w \vee \bar{x}yz\bar{w} \vee \bar{x}yzw \vee x\bar{y}\bar{z}w \vee x\bar{y}zw$$

Задача 18.27.

6

$$\bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee \bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee x\bar{y}\bar{z}\bar{w} \vee x\bar{y}\bar{z}w \vee x\bar{y}z\bar{w} \vee x\bar{y}zw$$

Задача 18.28.

6

$$\bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee \bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee \bar{x}yz\bar{w} \vee \bar{x}yz\bar{w} \vee xy\bar{z}\bar{w} \vee xyz\bar{w}$$

Задача 18.29.

6

$$\bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee x\bar{y}\bar{z}\bar{w} \vee xyz\bar{w} \vee xyzw$$

Задача 18.30.

6

$$\bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee \bar{x}\bar{y}z\bar{w} \vee \bar{x}\bar{y}zw \vee x\bar{y}\bar{z}\bar{w} \vee x\bar{y}\bar{z}w \vee xy\bar{z}\bar{w} \vee xy\bar{z}w$$

Задача 18.31.

6

$$\bar{x}\bar{y}z\bar{w} \vee x\bar{y}z\bar{w} \vee x\bar{y}zw \vee xyz\bar{w} \vee xyzw$$

Упрощение СДНФ (4 переменные)

1	$\bar{x}w\bar{y} \vee xwz \vee x\bar{w}\bar{y}$	0 1 0 1 0 0 0 0 1 0 1 1 0 0 0 1
2	$\bar{w}xy \vee y\bar{z} \vee w\bar{x}$	0 1 0 1 1 1 0 1 0 0 0 0 0 1 1 1 0
3	$\bar{x}yw \vee w\bar{z} \vee x\bar{y}$	0 1 0 0 0 1 0 1 1 1 1 1 1 0 1 0 0
4	$\bar{x}y\bar{z} \vee xyw \vee x\bar{y}\bar{z} \vee \bar{x}\bar{y}z\bar{w}$	0 0 1 0 1 1 1 0 0 1 1 0 0 0 1 0 1
5	$\bar{z}xy \vee \bar{y}z$	0 0 1 1 0 0 0 0 0 0 0 1 1 1 1 1 0 0
6	$\bar{z}w \vee zy$	0 1 0 0 0 1 1 1 0 1 0 0 0 1 1 1 1
7	$\bar{x}yz \vee w\bar{x}\bar{z}$	0 1 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0 0
8	$\bar{w}\bar{x} \vee yz$	1 0 1 0 1 0 1 1 0 0 0 0 0 0 0 1 1
9	$y\bar{z} \vee w$	0 1 0 1 1 1 0 1 0 1 0 1 1 1 1 0 1
10	$\bar{y}z \vee yx$	0 0 1 1 0 0 0 0 0 0 0 1 1 1 1 1 1 1
11	$\bar{z}xy \vee w$	0 1 0 1 0 1 0 1 0 1 0 1 1 1 1 0 1
12	$\bar{y}wz \vee y\bar{z}\bar{x} \vee \bar{z}yw$	0 0 0 1 1 1 0 0 0 0 0 0 1 0 1 0 0
13	$y\bar{z} \vee zw\bar{x}\bar{y}$	0 0 0 0 1 1 0 0 0 0 0 0 1 1 1 1 0 0
14	$y\bar{w}\bar{x}z \vee xw$	0 0 0 0 0 0 1 0 0 1 0 1 0 1 0 1 0 1
15	$\bar{z}x\bar{y} \vee zxw \vee z\bar{x}\bar{y} \vee \bar{z}\bar{x}yw$	0 0 1 1 0 1 0 0 1 1 0 1 0 0 0 0 1
16	$\bar{x}y\bar{w} \vee xyz \vee x\bar{y}\bar{w} \vee \bar{x}\bar{y}wz$	0 0 0 1 1 0 1 0 1 0 1 0 0 0 0 1 1
17	$\bar{y}w \vee yz$	0 1 0 1 0 0 1 1 0 1 0 1 0 0 1 1 1
18	$w\bar{y} \vee \bar{w}\bar{x}y\bar{z}$	0 1 0 1 1 0 0 0 0 0 1 0 1 0 0 0 0
19	$\bar{z}xy \vee z\bar{y}\bar{w} \vee \bar{y}zx$	0 0 1 0 0 0 0 0 0 0 0 0 1 1 1 1 1 0 0
20	$\bar{z}y\bar{x} \vee zyw \vee z\bar{y}\bar{x} \vee \bar{z}\bar{y}x\bar{w}$	0 0 1 1 1 1 0 1 1 0 0 0 0 0 0 0 1
21	$yz \vee \bar{y}\bar{x}\bar{w}\bar{z}$	1 0 0 0 0 0 1 1 0 0 0 0 0 0 0 1 1
22	$\bar{x}w\bar{y} \vee xwz \vee x\bar{w}\bar{y}$	0 1 0 1 0 0 0 0 0 1 0 1 1 0 0 0 1
23	$\bar{y}\bar{z}\bar{w} \vee \bar{x}z \vee \bar{x}w$	1 1 1 1 0 1 1 1 1 0 0 0 0 0 0 0 0
24	$\bar{z}wx \vee zw\bar{x}\bar{y}$	0 0 0 1 0 0 0 0 0 0 1 0 0 0 1 0 0
25	$\bar{z}yw \vee zy\bar{w}\bar{x}$	0 0 0 0 0 1 1 0 0 0 0 0 0 0 1 0 0
26	$\bar{x}y \vee x\bar{y}w \vee \bar{x}z\bar{w}$	0 0 1 0 1 1 1 1 0 1 0 1 0 0 0 0 0
27	\bar{y}	1 1 1 1 0 0 0 0 0 1 1 1 1 0 0 0 0
28	$\bar{x}\bar{y}\bar{z} \vee \bar{w}y \vee \bar{w}z$	1 1 1 0 1 0 1 0 0 0 0 1 0 1 0 1 0
29	$\bar{x}\bar{z}\bar{y} \vee \bar{w}x\bar{z} \vee wxzy$	1 1 0 0 0 0 0 0 0 1 0 0 0 1 0 0 1
30	$\bar{y}\bar{w}\bar{x} \vee \bar{z}w \vee \bar{z}x$	1 1 1 0 0 1 0 0 1 1 0 0 1 1 1 0 0
31	$xz \vee \bar{x}\bar{y}\bar{w}\bar{z}$	1 0 0 0 0 0 0 0 0 0 0 1 1 0 0 1 1