

Упрощение СДНФ (4 переменные)

Упростить совершенную дизъюнктивную нормальную форму.

Задача 18.1.

4

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

Задача 18.2.

4

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

Задача 18.3.

4

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

Задача 18.4.

4

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

Задача 18.5.

4

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

Задача 18.6.

4

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

Задача 18.7.

4

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

Задача 18.8.

4

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

Задача 18.9.

4

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

Задача 18.10.

4

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

Задача 18.11.

4

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

Задача 18.12.

4

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

Задача 18.13.

4

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

Задача 18.14.

4

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

Задача 18.15.

4

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

Задача 18.16.

4

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

Задача 18.17.

4

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

Задача 18.18.

4

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

Задача 18.19.

4

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

Задача 18.20.

4

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

Задача 18.21.

4

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

Задача 18.22.

4

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

Задача 18.23.

4

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

Задача 18.24.

4

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

Задача 18.25.

4

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

Задача 18.26.

4

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

Задача 18.27.

4

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

Задача 18.28.

4

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

Задача 18.29.

4

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

Задача 18.30.

4

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

Задача 18.31.

4

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

Упрощение СДНФ (4 переменные)

1	$y\bar{w} \vee \bar{y}z\bar{w}\bar{x}$	0 1 0 0 1 0 1 0 0 0 0 0 1 0 1 0
2	$\bar{w}xy \vee \bar{y}w$	0 1 0 1 0 0 0 0 0 0 1 0 1 1 0 1 0
3	$y\bar{z}\bar{w}x \vee wz$	0 0 0 1 0 0 0 0 1 0 0 0 0 1 1 0 0 1
4	$wx \vee \bar{y}w$	0 1 0 1 0 0 0 0 0 0 1 0 1 0 1 0 1
5	$x\bar{y} \vee yz\bar{w}\bar{x}$	0 0 0 0 0 0 0 0 1 1 1 1 1 0 0 0 0
6	$\bar{y}x\bar{z} \vee yxw \vee y\bar{x}\bar{z} \vee \bar{y}\bar{x}zw$	0 0 0 1 1 1 0 0 1 1 0 0 0 0 1 0 1
7	$\bar{y}xz \vee z\bar{w} \vee y\bar{x}$	0 0 1 0 1 1 1 1 0 0 1 1 0 0 1 0
8	$wzx \vee w\bar{z}\bar{x} \vee \bar{w}\bar{z}xy \vee w\bar{y}$	0 1 0 1 0 1 0 0 0 1 0 1 1 0 0 1
9	$\bar{z}wx \vee z\bar{x}\bar{y} \vee \bar{x}zw$	0 0 1 1 0 0 0 1 0 1 0 0 0 0 1 0 0
10	$\bar{z}y\bar{x} \vee zy\bar{w} \vee z\bar{y}\bar{x} \vee \bar{z}\bar{y}x\bar{w}$	0 0 1 1 1 1 0 1 1 0 0 0 0 0 0 0 1
11	$\bar{z}wx \vee y$	0 0 0 0 1 1 1 1 0 1 0 0 1 1 1 1 1
12	$yz \vee \bar{x}y$	0 0 0 0 1 1 1 1 0 0 0 0 0 0 0 1 1
13	$\bar{z}y \vee zw$	0 0 0 1 1 1 0 1 0 0 0 0 1 1 1 0 1
14	$\bar{w}\bar{y}\bar{x} \vee \bar{z}w\bar{y} \vee zwyx$	1 1 1 0 0 0 0 0 0 0 1 0 0 0 0 0 1
15	$\bar{y}z\bar{x} \vee yz\bar{w} \vee y\bar{z}\bar{x} \vee \bar{y}\bar{z}x\bar{w}$	0 0 1 1 1 1 0 1 1 0 0 0 0 0 0 0 1
16	\bar{x}	1 1 1 1 1 1 1 1 0 0 0 0 0 0 0 0 0
17	$\bar{x}\bar{y}\bar{z} \vee \bar{w}x\bar{y} \vee wxyz$	1 1 0 0 0 0 0 0 0 1 0 1 0 0 0 0 1
18	$\bar{x}\bar{z}\bar{w} \vee \bar{y}z \vee \bar{y}w$	1 1 1 1 1 0 0 0 0 0 1 1 1 0 0 0 0
19	$\bar{x}yz \vee \bar{z}x$	0 0 0 0 0 0 1 1 1 1 0 0 1 1 0 0
20	$xwy \vee x\bar{w}\bar{y} \vee \bar{x}\bar{w}yz \vee x\bar{z}$	0 0 0 0 0 0 1 0 1 1 1 0 1 1 0 1
21	$y\bar{x} \vee w$	0 1 0 1 1 1 1 1 0 1 0 1 0 1 0 1
22	$\bar{y}z \vee x\bar{w}$	0 0 1 1 0 0 0 0 0 1 0 1 1 1 0 1 0
23	\bar{z}	1 1 0 0 1 1 0 0 1 1 0 0 1 1 0 0
24	$\bar{x}yz \vee \bar{z}x$	0 0 0 0 0 0 1 1 1 1 0 0 1 1 0 0
25	$\bar{x}yz \vee z\bar{w} \vee x\bar{y}$	0 0 1 0 0 0 1 1 1 1 1 1 0 0 1 0
26	$\bar{z}x\bar{w} \vee zxy \vee z\bar{x}\bar{w}$	0 0 1 0 0 0 1 0 1 0 0 0 1 0 1 1
27	$\bar{y}xz \vee yx\bar{z}\bar{w}$	0 0 0 0 0 0 0 0 0 0 0 0 1 1 1 0 0 0
28	$\bar{w}zx \vee w\bar{z}\bar{x}\bar{y}$	0 0 0 1 0 0 0 0 0 0 0 1 0 0 0 1 0
29	$\bar{z}w\bar{x} \vee zwy \vee z\bar{w}\bar{x} \vee \bar{z}\bar{w}xy$	0 1 1 0 0 1 1 1 0 0 0 0 0 1 0 0 1
30	$y\bar{w} \vee x$	0 0 0 0 1 0 1 0 1 1 1 1 1 1 1 1 1
31	$\bar{x}yz \vee w\bar{x}\bar{z}$	0 1 0 0 0 1 1 1 0 0 0 0 0 0 0 0 0