

Упрощение СДНФ (4 переменные)

Упростить совершенную дизъюнктивную нормальную форму.

Задача 18.1.

2

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

Задача 18.2.

2

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

Задача 18.3.

2

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

Задача 18.4.

2

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

Задача 18.5.

2

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

Задача 18.6.

2

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

Задача 18.7.

2

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

Задача 18.8.

2

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

Задача 18.9.

2

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

Задача 18.10.

2

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

Задача 18.11.

2

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

Задача 18.12.

2

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

Задача 18.13.

2

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

Задача 18.14.

2

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

Задача 18.15.

2

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

Задача 18.16.

2

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

Задача 18.17.

2

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

Задача 18.18.

2

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

Задача 18.19.

2

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

Задача 18.20.

2

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

Задача 18.21.

2

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

Задача 18.22.

2

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

Задача 18.23.

2

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

Задача 18.24.

2

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

Задача 18.25.

2

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

Задача 18.26.

2

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

Задача 18.27.

2

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

Задача 18.28.

2

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

Задача 18.29.

2

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

Задача 18.30.

2

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

Задача 18.31.

2

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

Упрощение СДНФ (4 переменные)

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