

## Упрощение СДНФ (4 переменные)

Упростить совершенную дизъюнктивную нормальную форму.

Задача 18.1.

9

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

Задача 18.2.

9

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

Задача 18.3.

9

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

Задача 18.4.

9

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

Задача 18.5.

9

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

Задача 18.6.

9

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

Задача 18.7.

9

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

Задача 18.8.

9

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

**Задача 18.9.**

9

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

**Задача 18.10.**

9

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

**Задача 18.11.**

9

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

**Задача 18.12.**

9

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

**Задача 18.13.**

9

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

**Задача 18.14.**

9

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

**Задача 18.15.**

9

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

**Задача 18.16.**

9

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

**Задача 18.17.**

9

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

**Задача 18.18.**

9

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

**Задача 18.19.**

9

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

**Задача 18.20.**

9

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

**Задача 18.21.**

9

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

**Задача 18.22.**

9

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

**Задача 18.23.**

9

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

**Задача 18.24.**

9

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

**Задача 18.25.**

9

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

**Задача 18.26.**

9

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

**Задача 18.27.**

9

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

**Задача 18.28.**

9

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

**Задача 18.29.**

9

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

**Задача 18.30.**

9

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

**Задача 18.31.**

9

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

## Упрощение СДНФ (4 переменные)

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