K-waps

где

* 2,3,4,

под

variable k-maps

on where

cells in k-map = 2"

n is no.

2-Variable

x

Yo

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2

B

of

variables.

call no. minterm

1

x'y'

xy.

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xy

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2 = 8 cells

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2

y3=2=2 con

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3- Variable

y3

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Call

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Cell

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ay'z' x y'z

6

2

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y

y3

24

4- variabe = 2" cells = 16 (wix, yir)

сок

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11 10

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0

4

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12

13

15

14

10

8

Cell

no.

7

mintern mander in

w+x4y+3

wxyz

w+x+y'tz

wn'y'z

w'+x+y+z'

기구

15

wayg

yз

+

n'+

y'tzl

I simplify the following expression

using K-map.

1) f (x, y, z) =

{(0,2,3,7)

2

2=8 cells

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4

11

110

xz

6

y3

combining *cells* in

terms

3 g

powers y

2 1.4, 221, 2=2, 2=4, 2=8

wells

$\sqrt{7}$

(2,4,8)=2z+

yz

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}

уз

2） + (x, y, z) =

{ (0,2,4,6)

x

уз

00 01

5

11 10

32 16

|f=3

!

3) J (w,x,y,j) =

{(0,1,4,5,9,11,13,5)

w'

y'

3

WX

yz

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11 10

2

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12

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19/11

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ав

$$\Rightarrow wy' + wz$$

$$4) + (a, b, c, d) =$$

$$\{(1,3,4,6,9,11,12$$

,14)

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до

vol

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→ 68 +

bd'

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1.

2

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15/114 →

b'd+bd1

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2 combinations - 1,

3, 9, 11 b'd

4, 6, 12,
14 bd1

5) | (w, x,y,z) = πT
(1,3,8,10,12,13,14,15)

y, ɜ

yɜ

wx

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11 10

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2

Y

0 12 0

15

4

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9

13

74

10

combinations = 12, 13, 15, 14= 17x!

= 1,3 = w+x+3

8 to or 12,8,

14, *10*

=

12,8,14,10=w78

f

= (w+x')

(w+x+*31)* (w' +8)

f

Some types of 2-cell groups

аб

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13

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combinat

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8

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5,7

abd

6,14

bcd'

3, 11 =

b'cd

8,10 = ab'd'

abd+bed'+ bed

+as'd'

Some

types of

\cd

types of 4-cell groups

ab

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11

01

1

11

10

3

T

6

+3

15

14

10

B

9

11

=) 4, 5,

12,

3 = 2, 6, 14, 10 =

cd'

12.

13 = bcl

=> b='+

cd'

ab

Some 8-cell grouping

cd

✓ 0 0

||

0|

1

5

13

10

3

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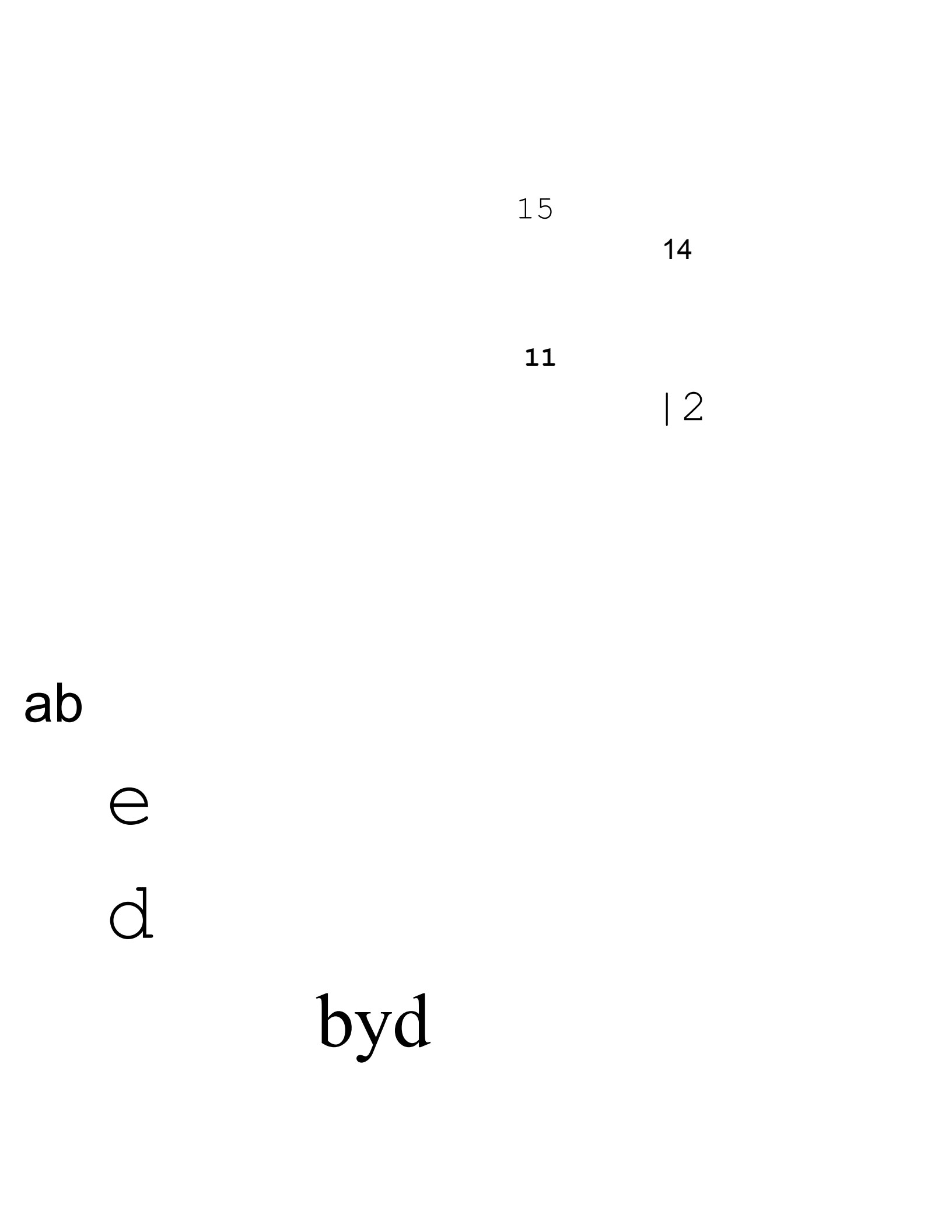
15
14
11
| 2
ab
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byd

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3

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4

16