

Decimal	Biner	Octal	Hexa-Decimal
54.25 110 ✓	110110.01 1101011	66.2 153 ✓	36.9 6b ✓

* Decimal = 54.25.

• biner = 110110.01

$$\begin{array}{r}
 \begin{array}{r}
 \frac{89}{2} & 0 \\
 \frac{27}{2} & 1 \\
 \frac{13}{2} & 1 \\
 \frac{6}{2} & 0 \\
 \frac{3}{2} & 1
 \end{array}
 \quad
 \begin{array}{l}
 0.25 \times 2 = 0.50 \\
 0.50 \times 2 = 1.00 \\
 \therefore 01
 \end{array}
 \end{array}$$

∴ 110110

• Octal = 110 110 . 010

$$6 \quad 6 \quad . \quad 2$$

∴ 66.2

• Hexa-Decimal = 36.9

$$\begin{array}{r}
 0011 \ 0110 \ . \ 0100 \\
 3 \quad 6 \ . \ 4
 \end{array}$$

* Biner = 1101011

• Decimal = 110

$$69 + 32 + 8 + 2 + 1 = 110$$

• Octal = 153

$$001 \ 101 \ 011$$

$$1 \ 5 \ 3$$

• Hexa-Decimal = 6b

$$\begin{array}{r}
 0110 \ 1011 \\
 6 \quad b
 \end{array}$$

II. h. i) $5+2 = 0111$

$$5 = 0101 \quad 0101$$

$$\begin{array}{r}
 2 = 0010 \quad 0010 \\
 \hline
 \underline{0111} \rightarrow 7
 \end{array}$$

ii) $3-2 = 0011$

$$5 = 0101 \quad 0101$$

$$\begin{array}{r}
 2 = 0010 \quad 1110 \\
 -2 = 1101 \quad \underline{10011} \rightarrow 3
 \end{array}$$

$$\underline{1110} +$$

8



$$2. \text{ a.} \text{ diperlukan } \bar{w}\bar{x}\bar{z} + \bar{w}x\bar{y} + \bar{w}xy + w\bar{y}\bar{z} = \bar{w}x + \bar{y}\bar{z} + \bar{w}\bar{z}$$

ditanyakan buktikan operasi sama dengan menggunakan teorema yang ada.

$$\text{Jawab: } \bar{w}\bar{x}\bar{z} + \bar{w}x\bar{y} + \bar{w}xy + w\bar{y}\bar{z}$$

- $\bar{w}\bar{x}\bar{z}(y+\bar{y}) + \bar{w}x\bar{y}(z+\bar{z}) + \bar{w}xy(z+\bar{z}) + w\bar{y}\bar{z}(x+\bar{x})$ (teori nong)
- $\bar{w}\bar{x}\bar{z}y + \bar{w}\bar{x}y\bar{z} + \bar{w}x\bar{y}z + \bar{w}x\bar{y}\bar{z} + \bar{w}xy\bar{z} + w\bar{y}\bar{z}x + w\bar{y}\bar{z}\bar{z}$ (distributif)
- $\bar{w}x(\bar{y}\bar{z} + \bar{y}\bar{z} + y\bar{z} + y\bar{z}) + \bar{y}\bar{z}(\bar{w}\bar{x} + \bar{w}x + w\bar{x} + w\bar{x}) + \bar{w}\bar{z}(\bar{x}y + \bar{x}\bar{y} + x\bar{y} + xy)$ (distributif)
- $\bar{w}x(\bar{y}(z+\bar{z}) + y(z+\bar{z})) + \bar{y}\bar{z}(\bar{w}(x+\bar{x}) + w(x+\bar{x})) + \bar{w}\bar{z}(\bar{x}(y+\bar{y}) + x(y+\bar{y}))$ (distributif)
- $\bar{w}x(\bar{y}+y) + \bar{y}\bar{z}(\bar{w}+w) + \bar{w}\bar{z}(\bar{x}+x)$ (teorema nong)
- $\bar{w}x + \bar{y}\bar{z} + \bar{w}\bar{z}$ ~~$= \bar{w}x + \bar{y}\bar{z} + \bar{w}\bar{z}$~~ (teorema nong)

$$\text{b. } F(w, x, y, z) = wx + \bar{w}\bar{x}\bar{z} + \bar{w}xy$$

w	x	y	z	wx	$\bar{w}\bar{x}\bar{z}$	$\bar{w}xy$	F
0	0	0	0	0	1	0	1
0	0	0	1	0	0	0	0
0	0	1	0	0	1	0	1
0	0	1	1	0	0	0	0
0	1	0	0	0	0	0	0
0	1	0	1	0	0	0	0
0	1	1	0	0	0	0	0
0	1	1	1	0	0	1	1
1	0	0	0	0	0	0	0
1	0	0	1	0	0	0	0
1	0	1	0	0	0	0	0
1	0	1	1	0	0	0	0
1	1	0	0	1	0	0	1
1	1	0	1	1	0	0	1
1	1	1	0	1	0	0	1
1	1	1	1	1	0	0	1

Jadi bentuk sum of min term adalah: $\sum m(0, 2, 6, 7, 12, 13, 14, 15)$

W

B

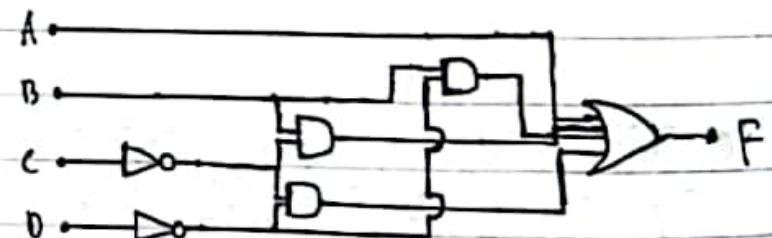
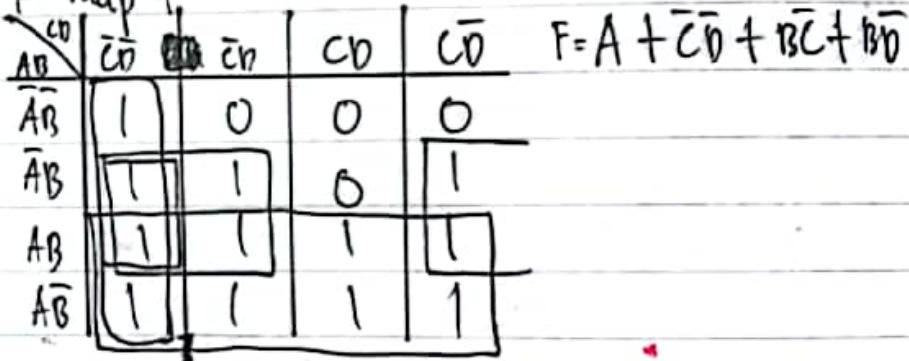
3.

A	B	C	D	a	b	c	d	e	f	g
0	0	0	0	1	1	1	1	1	1	0
0	0	0	1	0	1	1	0	0	0	0
0	0	1	0	1	1	0	1	1	0	1
0	0	1	1	1	1	1	1	0	0	1
0	1	0	0	0	0	1	0	0	1	1
0	1	0	1	1	0	1	0	1	1	1
0	1	1	0	1	0	1	1	1	1	1
0	1	1	1	1	1	0	0	0	0	0
1	0	0	0	1	1	1	1	1	1	1
1	0	0	1	1	1	1	1	0	1	1
1	0	1	0	1	0	0	1	1	1	1
1	0	1	1	1	0	0	1	1	1	1
1	1	0	0	1	0	0	1	1	1	1
1	1	0	1	1	0	0	1	1	1	1
1	1	1	0	1	0	0	1	1	1	1
1	1	1	1	1	1	0	0	0	0	0

input: 4 bit biner (ABCD)

output: 7 Segmen (abcdefg)

K-map f



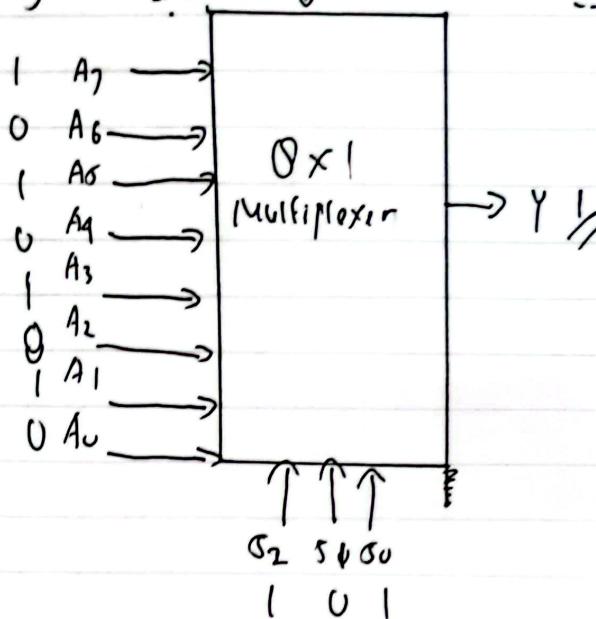
O O

a. diket : Data biner = 10101010

Select line = 101

Ditanya : berapa nilai y dan jawab

Jawab. Entrie $E \downarrow$



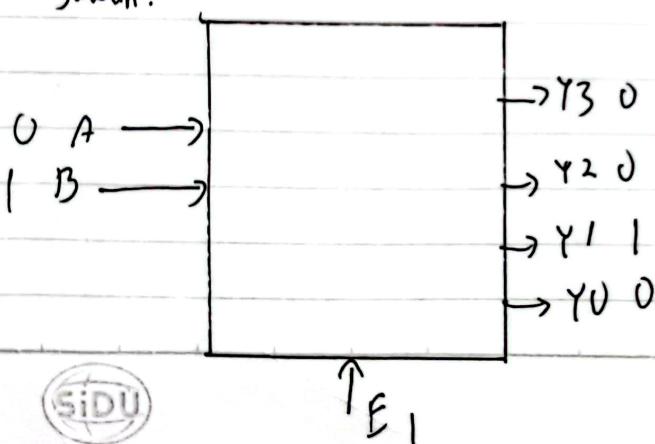
\therefore Pada sebuah multiplexer 8x1 dengan data yg biner 10101010 dengan select linea 101 akan menghasilkan nilai $y = 1$. Karena pada select linea akan mengarahkan ~~ke~~ input yg menuju ke output. Jadi pada select linea menghasilkan desimal 5, maka output menghasilkan input dari AS dengan nilai 1.

b. diket : diphodor 2-to-4 dengan Entrie

entrie = alifip , A = 0 , B = 1

ditanya : nilai keluaran Y_0, Y_1, Y_2, Y_3

Jawab.



\therefore Jadi nilai keluaran $Y_0 Y_1 Y_2 Y_3 = 0100$ dengan masing-masing $Y_0 = 0, Y_1 = 1, Y_2 = 0$ dan $Y_3 = 0$

