TUGAS PERTEMUAN 12

STATISTIKA DAN PROBABILITAS

SLIDE 21 & 37

Disusun oleh:

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PROGRAM STUDI TEKNIK INFORMATIKA

FAKULTAS INFORMATIKA

UNIVERSITAS BINA INSANI

BEKASI

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1. SLIDE 21

Y	X	y $(Y - \bar{Y})$	x $(X - \bar{X})$	xy	x^2	y^2
30	6	-7	-1	7	1	49
49	9	12	2	24	4	144
18	3	-19	-4	76	16	361
42	8	5	1	5	1	25
39	7	2	0	0	0	4
25	5	-12	-2	24	4	144
41	8	4	1	4	1	16
52	10	15	3	45	9	225
$\sum Y_i = 296$ $\bar{Y} = 37$	$\sum X_i = 56$ $\bar{X} = 7$	$\sum y_i = 0$	$\sum x_i = 0$	$\sum x_i y_i = 185$	$\sum x_i^2 = 36$	$\sum y_i^2 = 968$

- **Persamaan Regresi**

$$b = \frac{\sum x_i y_i}{\sum x_i^2}$$

$$b = \frac{185}{36} = 5{,}14$$

$$a = \bar{Y} - b\bar{X}$$

$$a = 37 - 5{,}14\,(7) = 1{,}02$$

$$Y' = a + bX$$

$$Y' = 1{,}02 + 5{,}14X$$

- **Koefisien Korelasi**

$$r = \frac{\sum x_i y_i}{\sqrt{\sum x_i^2}\sqrt{\sum y_i^2}}$$

$$r = \frac{185}{\sqrt{36} \times \sqrt{968}}$$

$$r = 0{,}99$$

$$KP = r^2$$
$$KP = (0{,}99)^2$$
$$KP = 0{,}9801 \times 100\%$$
$$KP = 98\%$$

2. SLIDE 37

X	Y	x $(X - \bar{X})$	y $(y - \bar{y})$	x^2	y^2	xy
1	2	-5,25	-5,75	27,5625	33,0625	30,1875
2	4	-4,25	-3,75	18,0625	14,0625	15,9375
4	5	-2,25	-2,75	5,0625	7,5625	6,1875
5	7	-1,25	-0,75	1,5625	0,5625	0,9375
7	8	0,75	0,25	0,5625	0,0625	0,1875
9	10	2,75	2,25	7,5625	5,0625	6,1875
10	12	3,75	4,25	14,0625	18,0625	15,9375
12	14	5,75	6,25	33,0625	39,0625	35,9375
$\sum X_i = 50$ $\bar{X} = 6,25$	$\sum Y_i = 62$ $\bar{Y} = 7,75$	$\sum x_i = 0$	$\sum y_i = 0$	$\sum x_i^2 = 107,5$	$\sum y_i^2 = 117,5$	$\sum x_i y_i = 111,5$

- **Persamaan Regresi**

$$b = \frac{\sum x_i y_i}{\sum x_i^2}$$

$$b = \frac{111,5}{107,5} = 1,04$$

$$a = \bar{Y} - b\bar{X}$$

$$a = 7,75 - 1,04\,(6,25) = 1,25$$

$$Y' = a + bX$$

$$Y' = 1,25 + 1,04X$$

- **Koefisien Korelasi**

$$r = \frac{\sum x_i y_i}{\sqrt{\sum x_i^2}\sqrt{\sum y_i^2}}$$

$$r = \frac{111,5}{\sqrt{107,5} \times \sqrt{117,5}}$$

$$r = 0,99$$

$$KP = r^2$$
$$KP = (0,99)^2$$
$$KP = 0,9801 \times 100\%$$
$$KP = 98\%$$