C- Calculat Varance

Age	F	X̄ᵢ	fᵢ.X̄ᵢ	X̄ᵢ-X̄	(X̄ᵢ-X̄)²	Fᵢ(X̄ᵢ-X̄)²
20-21	12	20,5	246	-5,259	27,657	331,889
22-23	17	22,5	382,5	-3,259	10,621	180,562
24-25	13	24,5	318,5	-1,259	1,585	20,607
26-27	12	26,5	318	0,74	0,549	6,588
28-29	7	28,5	199,5	2,74	7,512	52,59
30-31	18	30,5	549	4,74	22,476	404,58
33-35	4	34	136	8,24	67,913	271,653
total	83		2149,5			1260,473

$$S^2 = \frac{Fᵢ(Xᵢ-X)^2}{n}$$

$$= \frac{1260,473}{83}$$

$$= 15,283$$

So the number of variants is 15,283.

Name : Ade Hikmat Paujik
Npm : 225520 1130
Class : TIF K 22KB
UTS : Statistika

① .

Students	x	y	x^2	y^2	xy
A	2	6	4	36	12
B	3	7	9	49	21
C	1	4	1	16	4
D	3	8	9	64	24
E	4	8	16	64	32
F	3	7	9	49	21
G	4	9	16	81	36
H	1	5	1	25	5
I	1	4	1	16	4
J	2	6	4	36	12
total	24	64	70	436	171
ε	εx	εy	εx^2	εy^2	εxy

$$r = \frac{n \varepsilon xy - (\varepsilon x)(\varepsilon y)}{\{\sqrt{n \varepsilon x^2 - (\varepsilon x)^2}\} \times \sqrt{n \varepsilon y^2 - (\varepsilon y)^2}}$$

$$= \frac{10(171) - (24)(64)}{\sqrt{10(70) - (24)^2} \times \sqrt{10(436) - (64)^2}}$$

$$= \frac{1710 - 1536}{11,1 \times 16,2}$$

$$= \frac{174}{179,8}$$

$$= 0,96$$

The very strong positive correlation (0,96) between study time and test scores indicates that more study time tends to increase test scores.

a. Age	Frequency	Total
20	5	100
21	7	147
22	13	286
23	4	92
24	6	144
25	7	175
26	7	182
27	5	135
28	3	84
29	4	116
30	15	450
31	3	93
32	3	99
35	1	35
total	83	2130

b. Distribution of Frequency

Range = 35 - 20
= 15

Classes = 1 + 3,3 log 83
= 7

Class length = Range / classes
= 15/7
= 2,14

Age	Frequency
20 - 21	12
22 - 23	17
24 - 25	13
26 - 27	12
28 - 29	7
30 - 31	18
33 - 35	4
total	86

9. - Mean

Σ f.x̄ / Σ frequency

$= \dfrac{2130}{83}$

$= 25,759$

- Median

Σ Frequency / 2 + 1

$= \dfrac{83}{2} + 1$

$= 42 \rightarrow$ Median adalah data ke 42 → 25

- mode
$= 30$