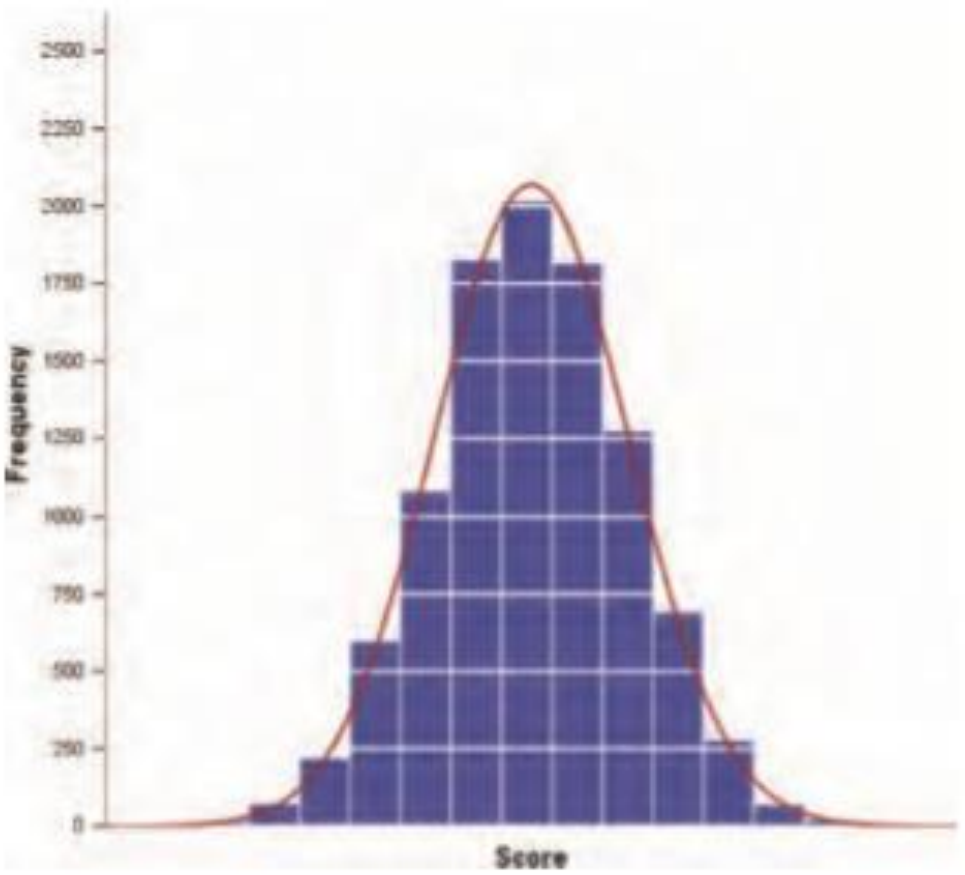
Data relative mengikuti distribusi Normal



KEMIRINGAN DISTRIBUSI DATA (Skewness)

Dapat dinyatakan dalam 3 bentuk

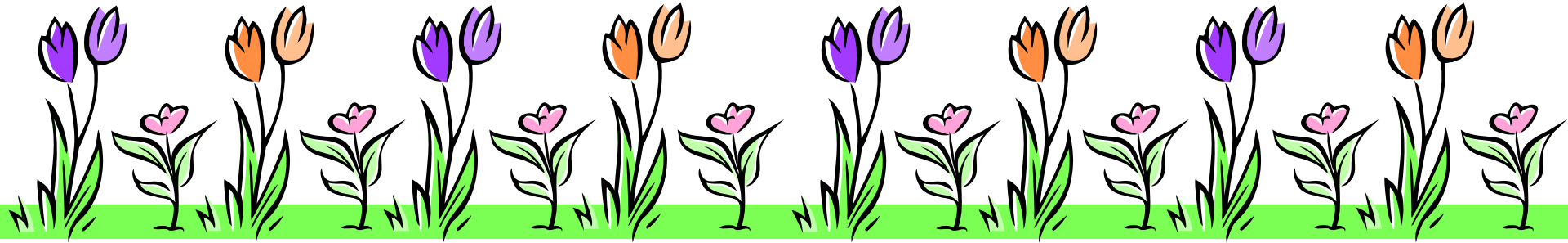
1. Pearson

$$\alpha = \frac{\overline{X} - Mod}{S} \text{ atau } \alpha = \frac{3\left(\overline{X} - Med\right)}{S}$$

$\alpha =$ derajat kemiringan Pearson

Bila :

1. $\alpha = 0$, maka distribusi datanya simetri
2. $\alpha < 0$, maka distribusi datanya miring ke kiri
3. $\alpha > 0$, maka distribusi datanya miring ke kanan



2. RUMUS MOMEN

Data berkelompok

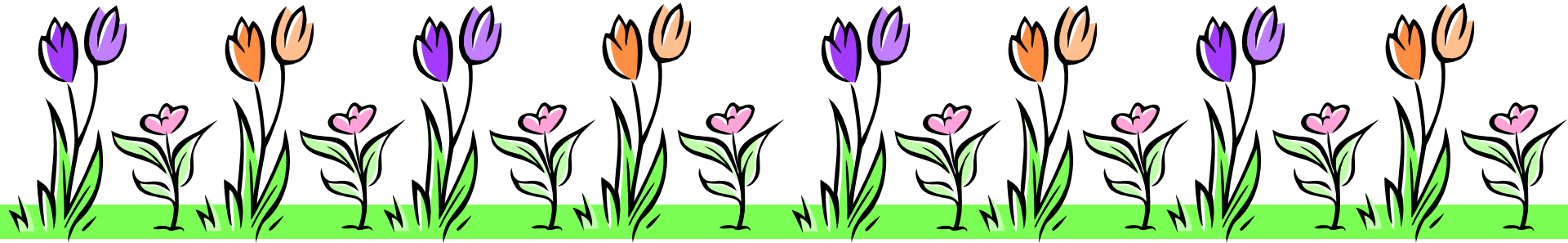
$$\alpha_3 = \frac{\Sigma f\left(X - \bar{X}\right)^3}{\Sigma f S^3} \quad \text{atau}$$

$$\alpha_3 = \frac{c^3}{S^3}\left\{\frac{\Sigma fU^3}{n} - 3\left(\frac{\Sigma fU^2}{n}\right)\left(\frac{\Sigma fU}{n}\right) + 2\left(\frac{\Sigma fU}{n}\right)^3\right\}$$

Data tidak berkelompok

$$\alpha_3 = \frac{\Sigma\left(X - \bar{X}\right)^3}{nS^3}$$

1. Jika $\alpha_3 = 0$, maka distribusi datanya simetri
2. Jika $\alpha_3 < 0$, maka distribusi datanya miring kiri
3. Jika $\alpha_3 > 0$, maka distribusi datanya miring kanan



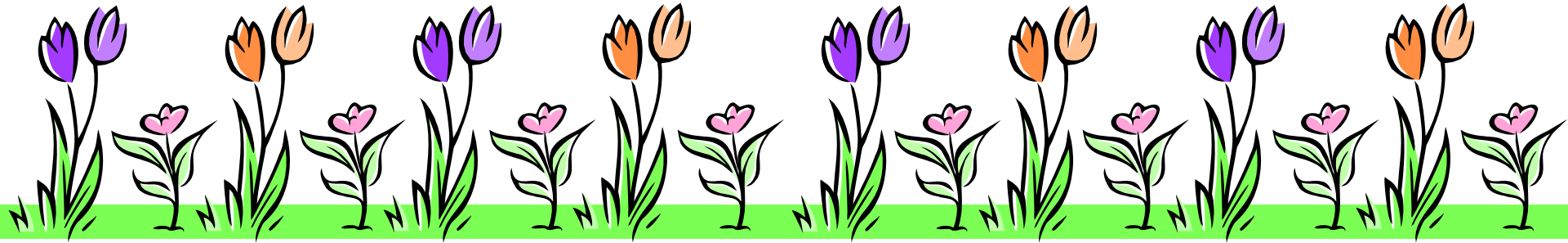
3. BOWLEY

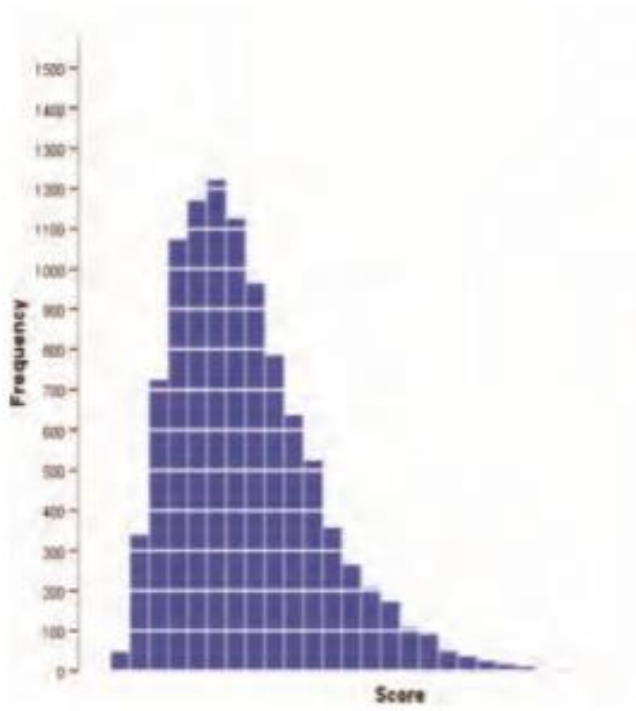
$$\alpha = \frac{Q_3 + Q_1 - Q_2}{Q_3 - Q_1}$$

1. Jika $Q_3 - Q_2 = Q_2 - Q_1$ atau $Q_3 + Q_1 - 2Q_2 = 0$ maka α = 0 dan distribusi datanya simetri

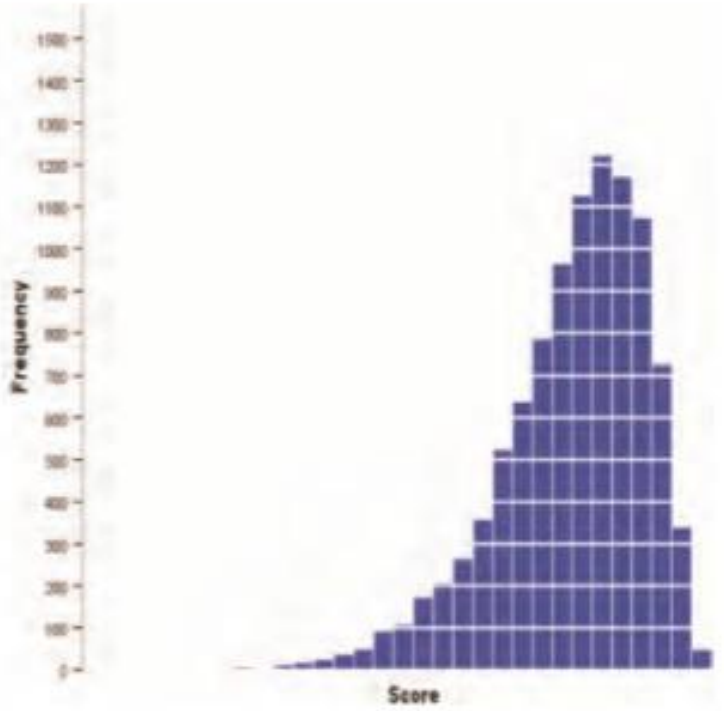
2. Jika $Q_1 = Q_2$ maka α = 1 dan distribusi datanya miring ke kanan

3. Jika $Q_2 = Q_3$ maka α = -1 dan distribusi datanya miring ke kiri





Miring positif (kanan)



Miring negatif (kiri)

KERUNCINGAN DISTRIBUSI DATA (Kurtosis)

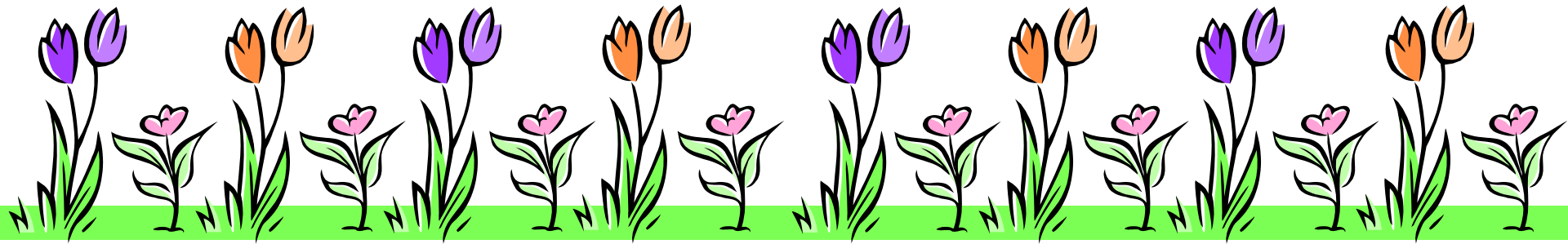
Menyatakan derajat atau ukuran tinggi rendahnya puncak suatu distribusi data terhadap distribusi normalnya data.

Ada 3 jenis :

1. Leptokurtis, puncak relatif tinggi
2. Mesokurtis, puncaknya normal
3. Platikurtis, puncak rendah

Data tidak berkelompok

$$\alpha_4 = \frac{\Sigma\left(X - \overline{X}\right)^4}{nS^4}$$



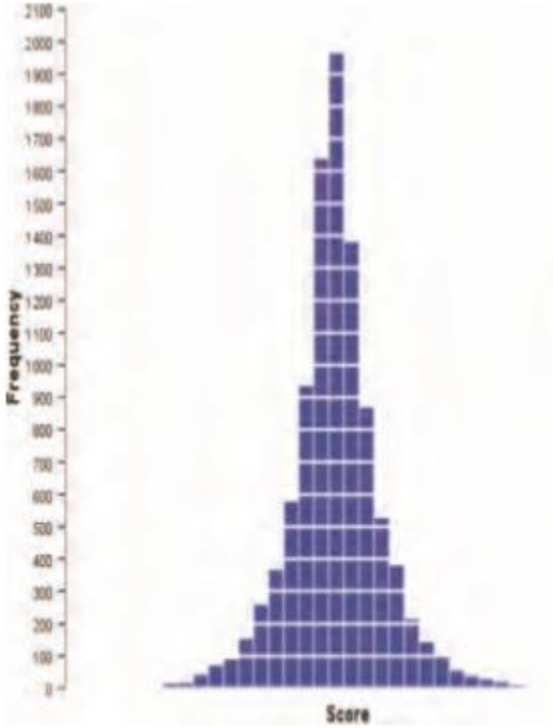
Data berkelompok

$$\alpha_4 = \frac{\Sigma f\left(X - \overline{X}\right)^4}{nS^4}$$

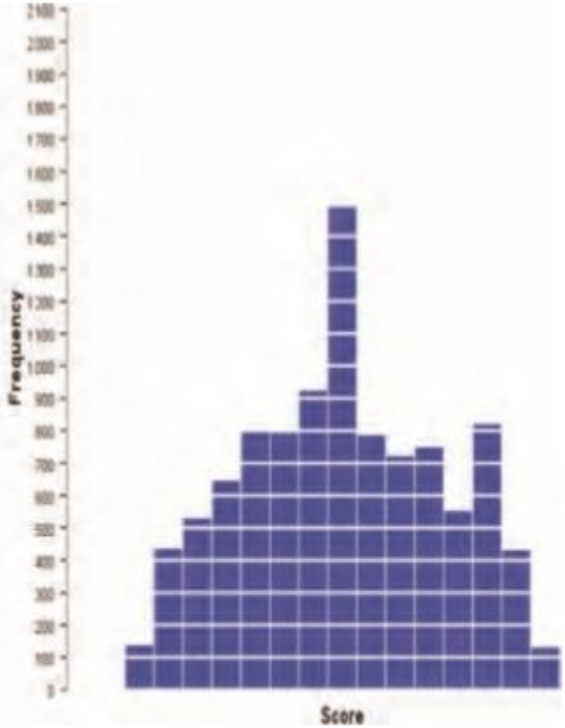
$\alpha_4 = 3$, Mesokurtis

$\alpha_4 > 3$, Leptokurtis

$\alpha_4 < 3$, Platikurtis

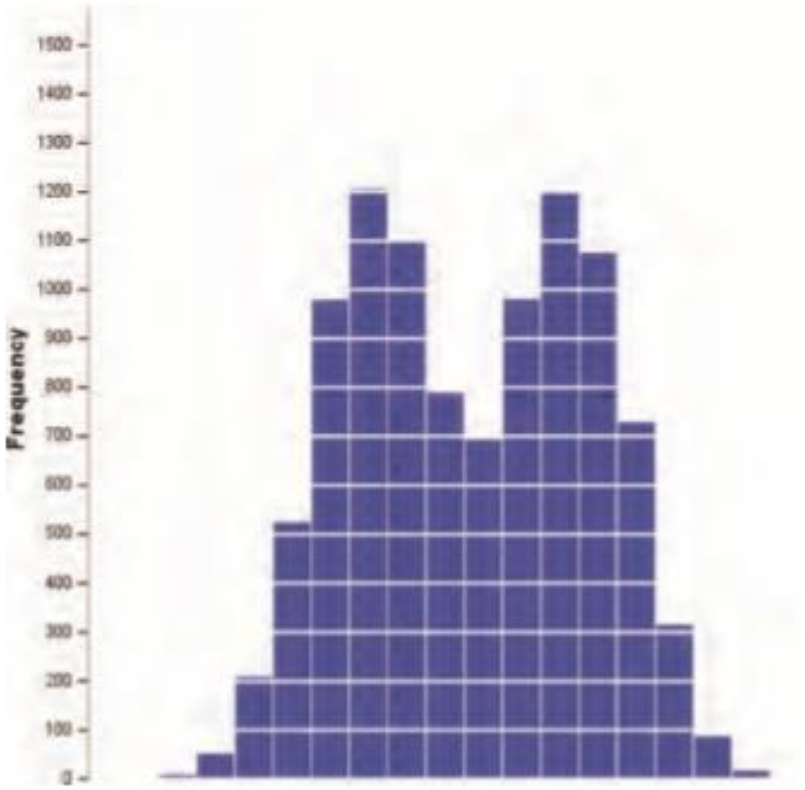


Kurtosis positif (leptokurtis)



Kurtosis negatif (platikurtis)

Bimodal distribution



Distribusi dengan dua modus