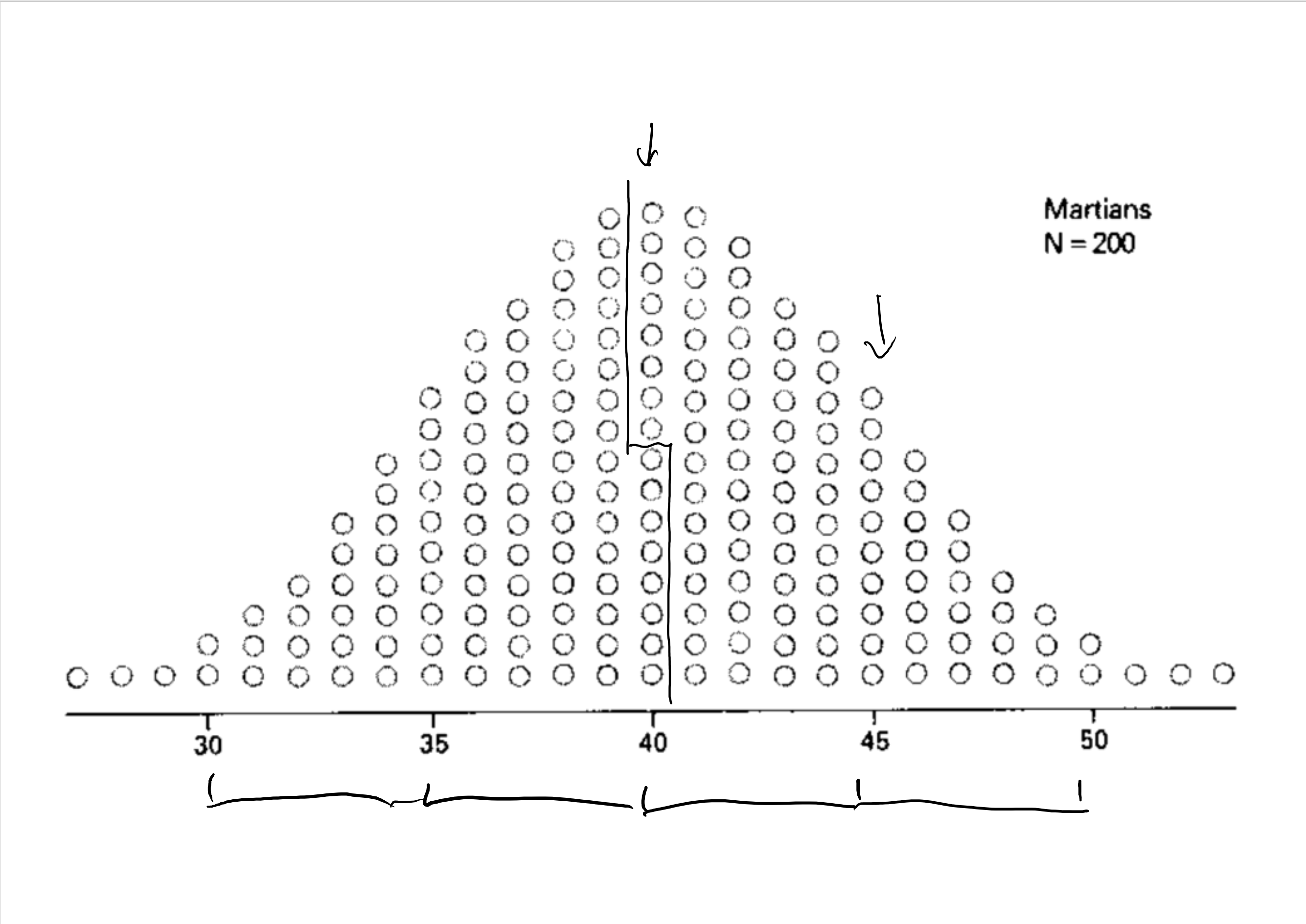
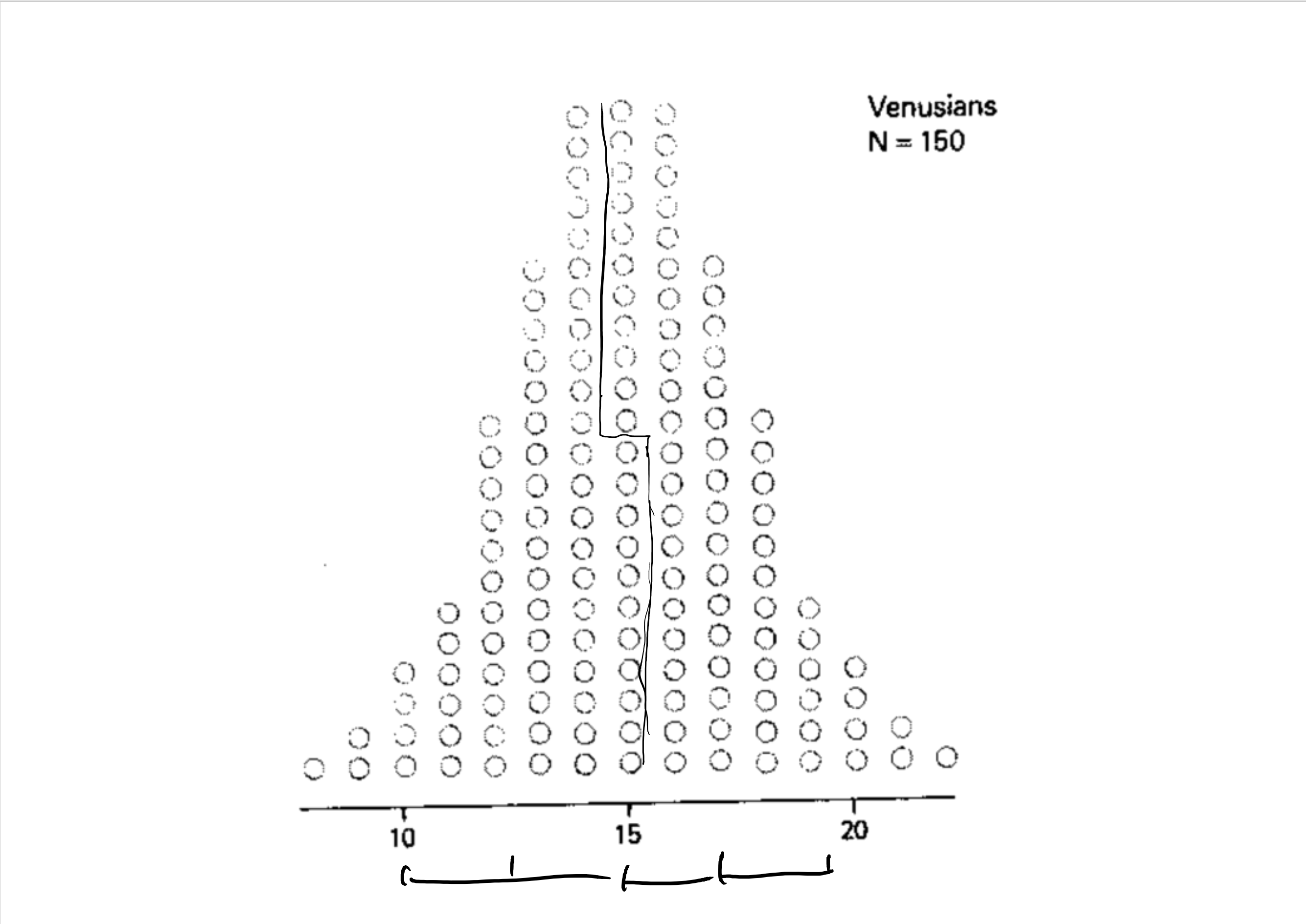
Immagine

venerdì 28 febbraio 2014 17.37

STATISTICA DESCRITTIVA





PARAMETRI:

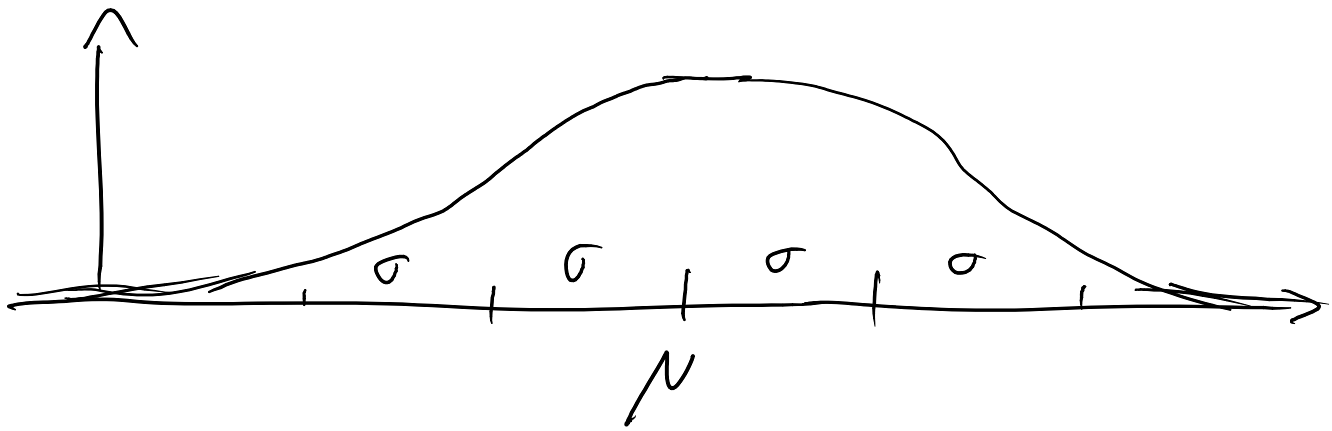
- media $\mu := \frac{1}{N} \sum_{1}^{N} {}_i X_i$

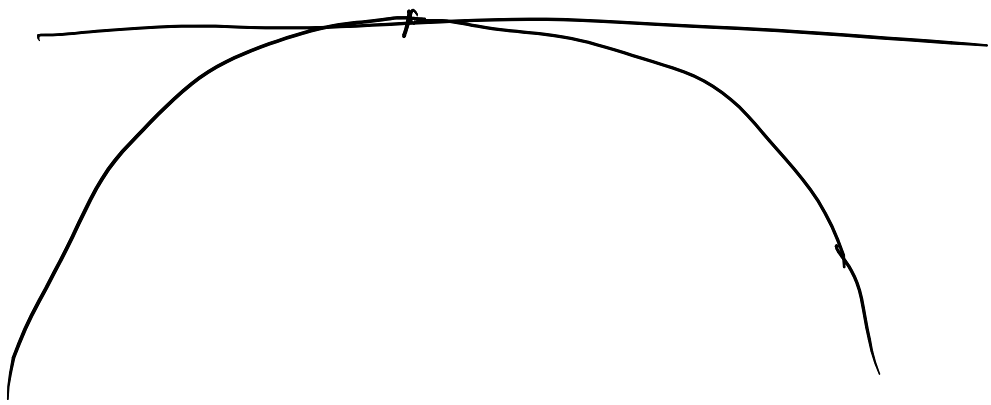
- varianza $\sigma^2 := \frac{1}{N} \sum_{1}^{N} {}_i (X_i - \mu)^2$

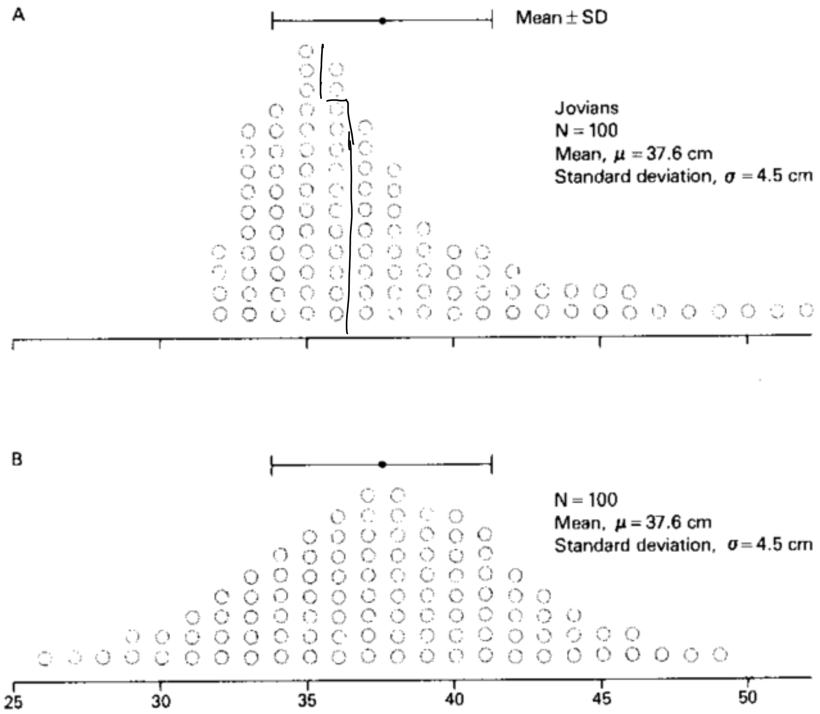
- deviazione standard: $\sigma = \sqrt{\sigma^2}$

- distribuzione normale o gaussiana:

$$f(x) = \frac{1}{\sqrt{2\pi\sigma^2}} e^{-\frac{1}{2}\frac{(x-\mu)^2}{\sigma^2}}$$


σ
σ
σ
σ
μ





- mediana: numero x tale che

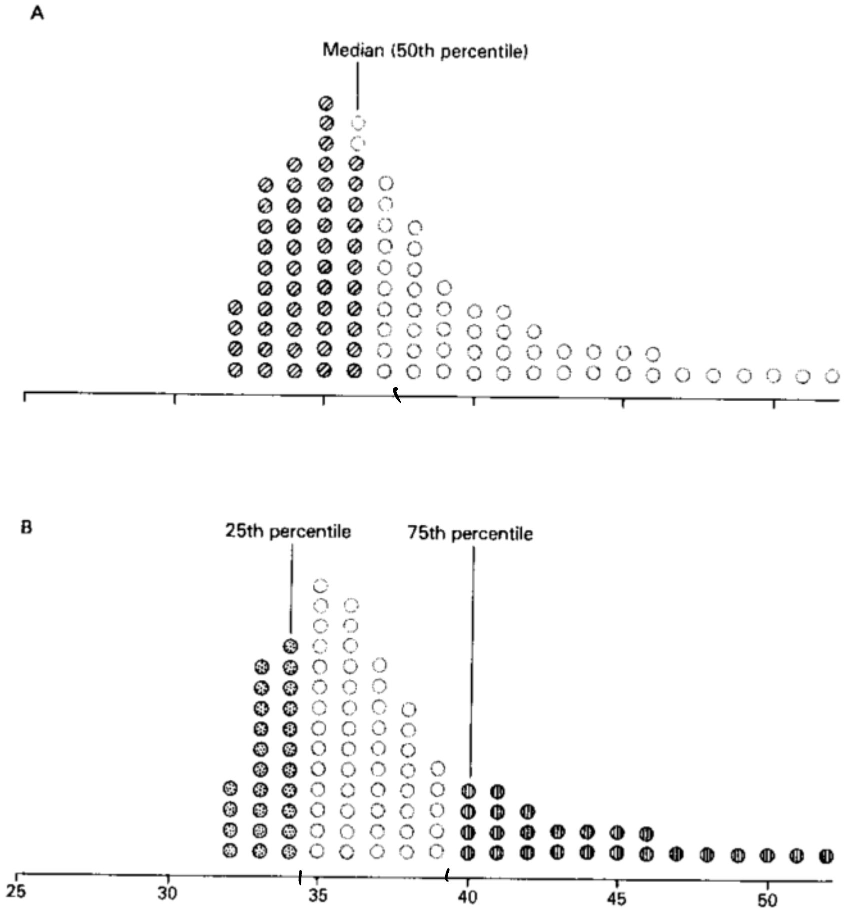
  metà dei dati è $\geq x$

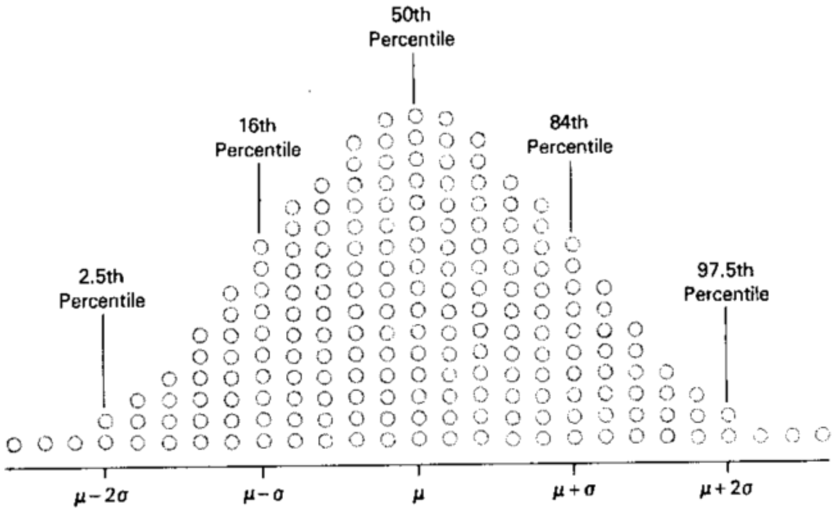
  metà dei dati è $\leq x$

- α-esimo percentile: numero tale che

  α % dei dati è $\leq x$

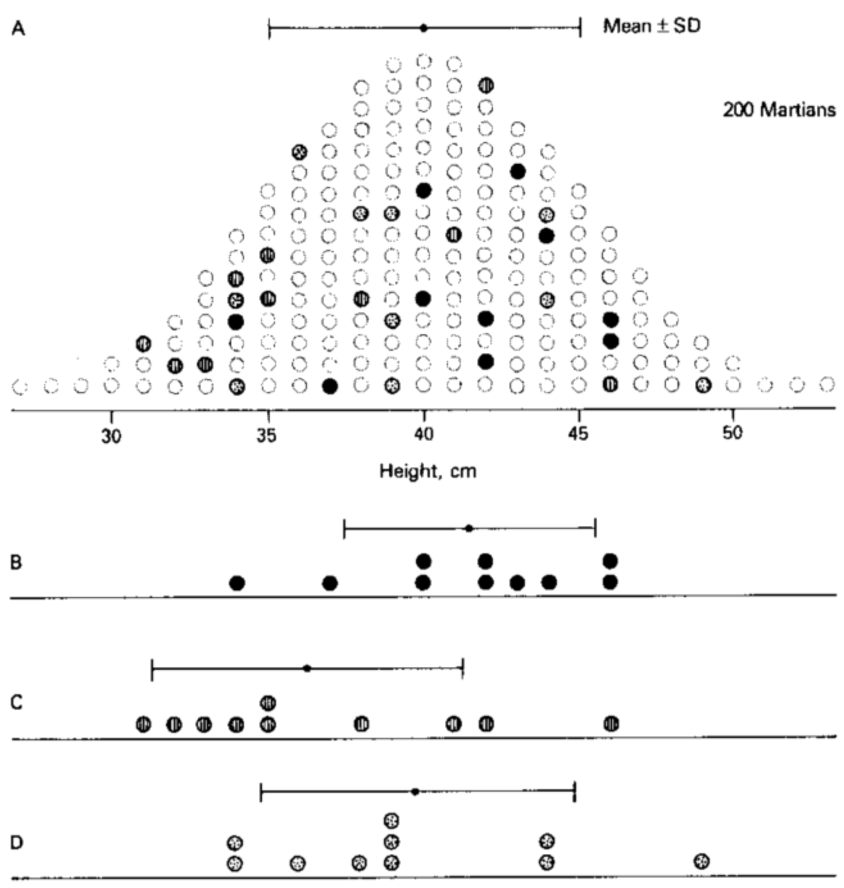
  $(100-\alpha)$ % dei dati è $\geq x$


A
Median (50th percentile)
B
25th percentile
75th percentile
25
30
35
40
45
50



STATISTICA INFERENZIALE

- campione di taglia n: insieme di n misurazioni di una caratteristica, tratte da una popolazione più vasta



- media campionaria:

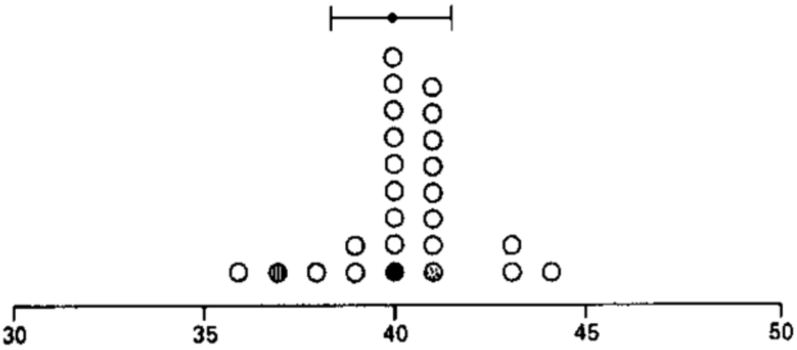
$$\bar{X} := \frac{1}{n} \sum_{1}^{n} {}_i X_i$$

- varianza campionaria:

$$S_x^2 := \frac{1}{n-1} \sum_{1}^{n} {}_i \left(X_i - \bar{X} \right)^2$$

- deviazione standard campionaria

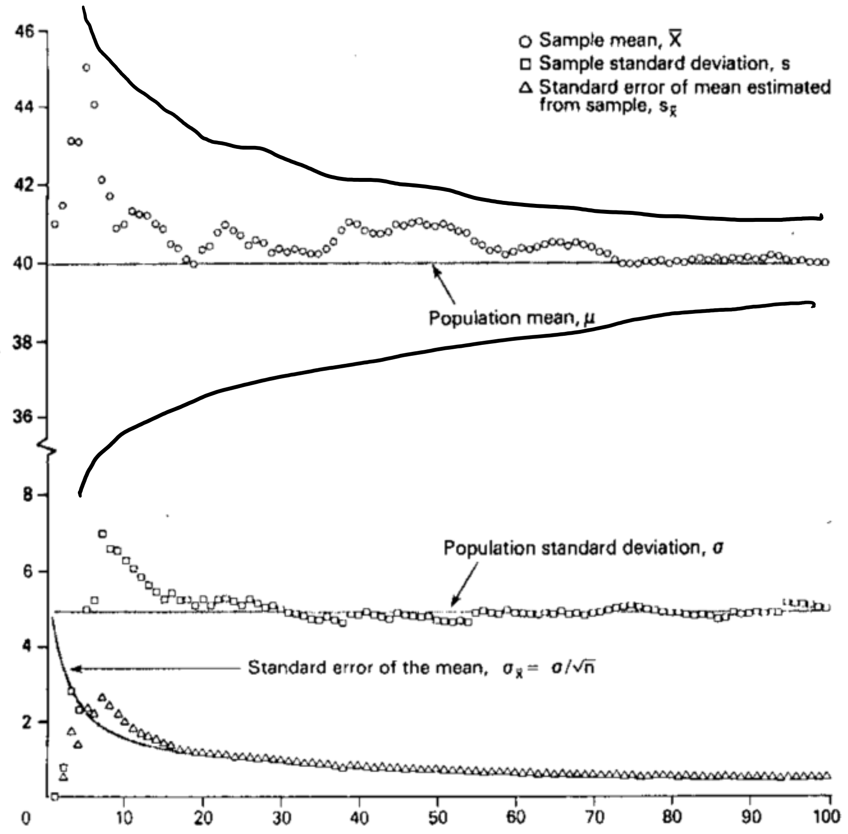
$$S_x := \sqrt{S_x^2}$$



– errore standard della media:

$$\sigma_{\bar{x}} = \frac{\sigma}{\sqrt{n}}$$

stimatore: $s_{\bar{x}} = \frac{s_x}{\sqrt{n}}$



○ Sample mean, $\overline{X}$
□ Sample standard deviation, s
△ Standard error of mean estimated from sample, $s_{\bar{x}}$
Population mean, μ
Population standard deviation, σ
Standard error of the mean, $\sigma_{\bar{x}} = \sigma/\sqrt{n}$
46
44
42
40
38
36
8
6
4
2
0
10
20
30
40
50
60
70
80
90
100