

List of abbreviations and standard notation used in statistics

Data sampling & sorting

n_i – (absolute) frequency (frequency count)

f_i – relative frequency

N_i – cumulative (absolute) frequency

F_i – cumulative relative frequency

n – number of observations or sample size

max – maximum value in the data set

min – minimum value in the data set

h – width of class (interval)

m – number of classes (intervals)

Descriptive statistics

\bar{x} – sample mean (read as „x bar“)

\tilde{x} – median

\hat{x} – mode

μ – population mean (read as „mju“)

IQR – interquartile range

R – range

Q1, Q2, Q3, Q4 – first, second, third and fourth quartile

σ^2 – population variance (read as „sigma squared“)

s_1^2 or s^2 – sample variance

σ – population standard deviation (read as „sigma“)

s_1 or s – sample standard deviation

CV – coefficient of variation

γ_1 – coefficient of skewness (read as „gamma“)

γ_2 – coefficient of kurtosis

x_i - values of a statistical attribute

Theory of probability

P (A) – probability of an event A

X – random variable

CDF – cumulative distribution function

pdf – probability density function

Point and interval estimate

CL – confidence level

CI – confidence interval

est – estimate

Δ – sampling error (read as „delta“)

$1 - \alpha$ – confidence level

α – level of significance, significance level (read as „alfa“)

χ^2 – Chi-square (read as „kai“)

Hypothesis testing

H_0 – null hypothesis

H_a or H_1 – alternate hypothesis

CV – critical value

TS – test statistic

μ_0 – a specific numerical value (constant) considered in the null and alternative hypotheses

μ_d – difference in the values of the population means

p-value – probability value

σ_0^2 – a specific numerical value (constant) considered in the null and alternative hypotheses

s_{11}^2 – sample variance of the first sample (group)

s_{12}^2 – sample variance of the second sample (group)

σ_1^2 – population variance of the first sample (group)

σ_2^2 – population variance of the second sample (group)

F distribution – Fisher distribution

Analysis of variance (ANOVA)

SS – sum of squares

df – degrees of freedom

MS – mean squares

Elaborated by: Ing. Martina Majorová, Dept. of Statistics and Operations Research, FEM SUA in Nitra

F – test statistic

F crit – critical value

Chi-square test for independence

E or $(a_i b_j)_0$ – expected (theoretical) frequencies

O or $(a_i b_j)$ – observed (empirical) frequencies

$\sum \sum$ – sum of sum

a_i – sum of values (observed frequencies) in each row in the contingency table

b_j – sum of values (observed frequencies) in each column in the contingency table

Regression and correlation analysis

y – dependent variable

x – independent variable

LBF – line of best fit (least squares line)

r – correlation coefficient (multiple r)

r^2 – coefficient of determination (r-squared)

y_i – actual values of dependent variable

\hat{y} – predicted values of dependent variable (read as „y hat“)

e_i – residuals

se_i – standardized (standard) residuals

