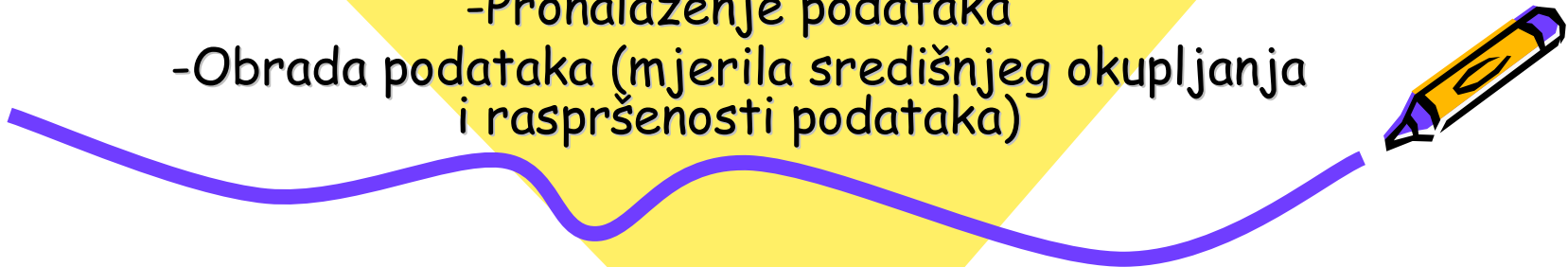


# Statistika

## 3. vježbe

- Unos podataka
- Pronalaženje podataka
- Obrada podataka (mjerila središnjeg okupljanja i raspršenosti podataka)



# Primjer

- Na farmi svinja XY u Slavoniji promatrali smo broj eritrocita (RBC), leukocita (WBC) i trombocita (PLT) u krvi sedmodnevnih odojaka (P i K) pasmine Duroc.
- Unesite prikupljene podatke u program Statistica, obradite ih po skupini te provjerite normalnost raspodjele pojedinih svojstava.



STATISTICA - [Data: krv\_prasadi\_4\_vj (4v by 68c)]

File Edit View Insert Format Statistics Graphs Tools Data Window Help

Arial 10 B I U

	1 Var1	2 WBC	3 RBC	4 PLT
1	P	7,3	3,19	340
2	P	12,7	3,52	286
3	P	7,7	3,12	249
4	P	7	3,97	294
5	P	11,9	3,5	137
6	P	6	2,27	274
7	P	8,6	4,23	343
8	P	3,7	4,71	357
9	P	7,8	3,43	460
10	P	7,6	3,25	538
11	P	9,6	3,53	275
12	P	9,2	4,45	337
13	P	16,8	4,16	518
14	P	20,8	4,17	365
15	P	11,9	3,2	337
16	P	10,2	3,78	364
17	P	8,7	4,29	297
18	P	11,9	5,52	266
19	P	10	5,01	288
20	P	31,9	3,24	392
21	P	11,5	3,34	531
22	P	31,3	4,59	371
23	P	11,1	3,28	573
24	P	12,1	4,18	217
25	P	13	3,48	238
26	P	15,1	4,45	448
27	P	8,9	2,04	182
28	P	8,3	3,58	316
29	P	11,1	4,29	225
30	P	10,2	4,45	173
31	P	12,2	2,59	218
32	P	7,1	3,53	169
33	P	15	4,56	205
34	P	38,4	4,66	138
35	K	11,9	3,74	369
36	K	14,7	2,6	282
37	K	6	2,84	274
38	K	7,2	2,72	229
39	K	10,9	5,8	549
40	K	5,8	2,64	390
41	K	8,2	3,74	110
42	K	25,6	2,57	180
43	K	7,6	2,6	151
44	K	9,7	3,65	420
45	K	12,1	3,61	167
46	K	14,4	3,96	357
47	K	12,8	3,12	326

Descriptive Statistics:...

For Help, press F1

C1,V1 P Set: ON Weight: OFF CAP NUM REC

Start Outbox - ... ispi 07\_D... doktorat doct\_06 - ... statistika izvedbeni ... 4\_vjzbe\_... podaci radno STATISTI... HR 11:44

STATISTICA - [Data: krv\_prasadi\_4\_vj.sta (4v by 68c)]

File Edit View Insert Format Statistics Graphs Tools Data Window Help

Variables: none

Quick | Advanced | Normality | Prob. & Scatterplots | Categ. plots | Options

Distribution: Frequency tables | Histograms

Categorization:
 

- Number of intervals: 10
- Integer intervals (categories)

Normal expected frequencies  
 Kolmogorov-Smirnov & Lilliefors test for normality  
 Shapiro-Wilk's W test

Stem and leaf:
 

- Stem & leaf plot
- Compressed

Use Distribution Fitting, Process Analysis, or Graphs (P-P or Q-Q) to fit other distributions; use Survival Analysis to fit distributions to censored data.

MD deletion:
 

- Casewise
- Pairwise

	1 Kod	2 WBC	3 RBC	4 PLT
1	P	7,3	3,19	340
2	P	12,7	3,52	286
3	P	7,7	3,12	249
4	P	7	3,97	294
5	P	11,9	3,5	137
6	P	6	2,27	274
7	P	8,6	4,23	343
8	P	3,7	4,71	357
9	P	7,8	3,43	460
10	P	7,6	3,25	538
11	P	9,6	3,53	275
12	P	9,2	4,45	337
13	P	16,8	4,16	518
14	P	20,8	4,17	365
15	P	11,9	3,2	337
16	P	10,2	3,78	364
17	P	8,7	4,29	297
18	P	11,9	5,52	266
19	P	10	5,01	288
20	P	31,9	3,24	392
21	P	11,5	3,34	531
22	P	31,3	4,59	371
23	P	11,1	3,28	573
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44	K	9,7	3,65	420
45	K	12,1	3,61	167
46	K	14,4	3,96	357
47	K	12,8	3,12	326

Descriptive Statistics: krv\_prasadi\_4\_vj.sta

Summary

Cancel

Options

SELECT CASES

W

Weighted moments

DF =

W1 N1

MD deletion

Casewise

Pairwise

Ready

C1,V1

P Set:OFF Weight:OFF CAP NUM REC

Start

statistika

stat314v.ppt [Samo z...

stat3v.ppt

STATISTICA - [Dat...

4\_vjezbe.doc - Micros...

HR

Desktop

8:59

STATISTICA - [Data: krv\_prasadi\_4\_vj.sta (4v by 68c)]

File Edit View Insert Format Statistics Graphs Tools Data Window Help

Arial 10 B I U

	1 Kod	2 WBC	3 RBC	4 PLT
1	P	7,3	3,19	340
2	P	12,7	3,52	286
3	P	7,7	3,12	249
4	P	7	3,97	294
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43	K	7,6	2,6	151
44	K	9,7	3,65	420
45	K	12,1	3,61	167
46	K	14,4	3,96	357
47	K	12,8	3,12	326

Descriptive Statistics: krv\_prasadi\_4\_vj.sta

Select the variables for the analysis

1 - Kod  
2 - WBC  
3 - RBC  
4 - PLT

OK Cancel [Bundles...] [Options...]

Use the "Show appropriate variables only" option to pre-screen variable lists and show categorical and continuous variables. Press F1 for more information.

Select variables: 2-4

Show appropriate variables only

Ready C1,V1 P Set:OFF Weight:OFF CAP NUM REC

Start statistika stat3i4v.ppt [Samo z... stat3v.ppt STATISTICA - [Dat... 4\_vjezbe.doc - Micros... HR Desktop 8:59



STATISTICA - [Workbook1\* - Descriptive Statistics (krv\_prasadi\_4\_vj.sta)]

File Edit View Insert Format Statistics Graphs Tools Data Workbook Window Help

Basic Statistics/Tables (krv\_...)

Descriptive statistics dial...

Descriptive Statistics

Variable	Valid N	Mean	Median	Mode	Frequency of Mode	Minimum	Maximum	Range	Variance	Std.Dev.
WBC	34	12,5471	10,6500	11,90000	3	3,7000	38,4000	34,7000	56,94	7,5461
RBC	34	3,8106	3,6800	4,450000	3	2,0400	5,5200	3,4800	0,59	0,7659
PLT	34	315,3235	295,5000	337,0000	2	137,0000	573,0000	436,0000	13353,74	115,5584

Descriptive Statistics: krv\_prasadi\_4\_vj.sta

Variables: WBC-PLT

Quick Advanced Normality Prob. & Scatterplots Categ. plots Options

Summary: Descriptive statistics Compute statistics:

Location, valid N

- Valid N
- Mean
- Sum
- Median
- Mode
- Geom. mean
- Harm. mean

Variation, moments

- Standard Deviation
- Variance
- Std. err. of mean
- Conf. limits for means Interval: 95,00 %
- Skewness
- Std. err., Skewness
- Kurtosis
- Std. err., Kurtosis

Percentiles, ranges

- Minimum & maximum
- Lower & upper quartiles
- Percentile boundaries First: 10,00 % Second: 90,00 %
- Range
- Quartile range

SELECT CASES

Wghtd momnts

DF =

W1 N1

MD deletion

- Casewise
- Pairwise

Save settings as default

Ukoliko u jednom dokumentu imamo podatke za više grupa životinja, odabrati od kojeg do kojeg promatranja se obrađuju podaci

Descriptive Statistics (krv\_prasadi\_4\_vj.sta)

Ready C1.V1 34 CAP NUM REC

Start statistika stat3i4v.ppt [Samo z... stat3v.ppt STATISTICA - [Wor... 4\_vjezbe.doc - Micros... Desktop 9:00

STATISTICA - [Data: krv\_prasadi\_4\_vj.sta (4v by 68c)]

File Edit View Insert Format Statistics Graphs Tools Data Window Help

Arial 10 B I U

	1 Kod	2 WBC	3 RBC	4 PLT
1	P	7,3	3,19	340
2	P	12,7	3,52	286
3	P	7,7	3,12	249
4	P	7	3,97	294
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37	K	6	2,84	274
38	K	7,2	2,72	229
39	K	10,9	5,8	549
40	K	5,8	2,64	390
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43	K	7,6	2,6	151
44	K	9,7	3,65	420
45	K	12,1	3,61	167
46	K	14,4	3,96	357
47	K	12,8	3,12	326

Descriptive Statistics: krv\_prasadi\_4\_vj.sta

Variables: WBC-PLT

Quick Advanced Normality Prob. & Scatterplots Categ. plots Options

Summary: Descriptive statistics Compute statistics: \_\_\_\_\_

Location, valid N  
 Valid N  
 Mean  
 Sum  
 Median  
 Mode  
 Geom. mean  
 Harm. mean

Variation, moments  
 Standard Deviation  
 Variance  
 Skewness  
 Kurtosis

Percentiles, ranges  
 Minimum & maximum  
 Quartiles  
 Percentiles

Buttons: Summary, Cancel, Options

Analysis/Graph Case Selection Conditions

Use current Spreadsheet selection conditions  
 Use selection conditions for this Analysis/Graph only

Enable Selection Conditions Review Variables: Clear All OK Cancel

Include cases:  
 All  
 Specific, selected by:  
 By Expression: \_\_\_\_\_  
 or case number: 1-34

Exclude cases (from the set of cases defined in the 'Include cases' section)  
 By expression: \_\_\_\_\_  
 or case number: \_\_\_\_\_

By case number: Enter case numbers and/or ranges. Example: 1, 3, 5-12  
 By expression: Use the same operators, functions, and syntax as in the spreadsheet formulas:  
 Use variable names or v1, v2... v0 is the case number (v0<4 means cases 1-3)  
 Examples: (a) v1=0 OR age>18 (b) gender='MALE' AND v4<-(v5+v6)  
 In case of conflict, variable names take precedence over variable text values. Specify text values by appending \$, as in "value\$".

Buttons: Open..., Save As...

Ready C1,V1 P Set:OFF Weight:OFF CAP NUM REC

Start statistika stat314v.ppt [Samo z... stat3v.ppt STATISTICA - [Dat... 4\_vjezbe.doc - Micros... HR Desktop 8:59

STATISTICA - [Data: krv\_prasadi\_4\_vj.sta (4v by 68c)]

File Edit View Insert Format Statistics Graphs Tools Data Window Help

Arial 10 B I U

	1 Kod	2 WBC	3 RBC	4 PLT
1	P	7,3	3,19	340
2	P	12,7	3,52	286
3	P	7,7	3,12	249
4	P	7	3,97	294
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35	K	11,9	3,74	369
36	K	14,7	2,6	282
37	K	6	2,84	274
38	K	7,2	2,72	229
39	K	10,9	5,8	549
40	K	5,8	2,64	390
41	K	8,2	3,74	110
42	K	25,6	2,57	180
43	K	7,6	2,6	151
44	K	9,7	3,65	420
45	K	12,1	3,61	167
46	K	14,4	3,96	357
47	K	12,8	3,12	326

Descriptive Statistics: krv\_prasadi\_4\_vj.sta

Variables: WBC-PLT

Quick Advanced Normality Prob. & Scatterplots Categ. plots Options

Summary: Descriptive statistics Compute statistics:

Location, valid N:  Valid N  Mean  Sum  Median  Mode  Geom. mean  Harm. mean

Variation, moments:  Standard Deviation  Variance  Std. err. of mean  Conf. limits for means Interval: 95,00 %  Skewness  Std. err., Skewness  Kurtosis  Std. err., Kurtosis

Percentiles, ranges:  Minimum & maximum  Lower & upper quartiles  Percentile boundaries First: 10,00 % Second: 90,00 %  Range  Quartile range

SELECT CASES  W  Wt  Wght moments DF =  Wt  Nt MD deletion  Casewise  Pairwise

Save settings as default

Ready C1.V1 P Set: ON Weight: OFF CAP NUM REC

Start statistika stat314v.ppt [Samo z... stat3v.ppt STATISTICA - [Dat... 4\_vjezbe.doc - Micros... HR Desktop 9:00



STATISTICA - [Workbook2\* - Descriptive Statistics (krv\_prasadi\_4\_vj)]

File Edit View Insert Format Statistics Graphs Tools Data Workbook Window Help

Arial 10 B I U

Workbook2\*  
Basic Statistics/Tables (krv\_...  
Descriptive statistics dial...  
Descriptive Statistics

Descriptive Statistics (krv\_prasadi\_4\_vj)  
Include cases: 1:34

Variable	Valid N	Mean	Median	Mode	Frequency of Mode	Minimum	Maximum	Range	Variance	Std.Dev.	Standard Error
WBC	34	12,5471	10,6500	11,90000	3	3,7000	38,4000	34,7000	56,94	7,5461	1,29414
RBC	34	3,8106	3,6800	4,450000	3	2,0400	5,5200	3,4800	0,59	0,7659	0,13135
PLT	34	315,3235	295,5000	337,0000	2	137,0000	573,0000	436,0000	13353,74	115,5584	19,81810

Descriptive Statistics (krv\_prasadi\_4\_vj)

For Help, press F1

C1,V1 34 CAP NUM REC

Start Outlook - ... ispiti 07\_0... doktorat doct\_06 - ... statistika izvedbeni ... 4\_vjzbe... podaci radno STATISTI... HR 11:38

STATISTICA - [Workbook1\* - Descriptive Statistics (krv\_prasadi\_4\_vj.sta)]

File Edit View Insert Format Statistics Graphs Tools Data Workbook Window Help

Workbooks: Workbook1\*

- Basic Statistics/Tables (krv\_...)
- Descriptive statistics dial...
- Descriptive Statistics

Variable	Valid N	Mean	Median	Mode	Frequency of Mode	Minimum	Maximum	Range	Variance	Std.Dev.
WBC	34	12,5471	10,6500	11,90000	3	3,7000	38,4000	34,7000	56,94	7,5461
RBC	34	3,8106	3,6800	4,450000	3	2,0400	5,5200	3,4800	0,59	0,7659
PLT	34	315,3235	295,5000	337,0000	2	137,0000	573,0000	436,0000	13353,74	115,5584

Descriptive Statistics: krv\_prasadi\_4\_vj.sta

Variables: WBC-PLT

Quick | Advanced | Normality | Prob. & Scatterplots | Categ. plots | Options

Summary: Descriptive statistics | Compute statistics: \_\_\_\_\_

Location, valid N:  Valid N,  Mean,  Sum,  Median,  Mode,  Geom. mean,  Harm. mean

Variation, moments:  Standard Deviation,  Variance,  Skewness,  Kurtosis

Percentiles, ranges:  Minimum & maximum,  Quartiles,  Five-number summary

Analysis/Graph Case Selection Conditions

Use current Spreadsheet selection conditions  
 Use selection conditions for this Analysis/Graph only

Enable Selection Conditions

Include cases:

- All
- Specific, selected by:
  - By Expression: \_\_\_\_\_
  - or case number: 35-68

Exclude cases (from the set of cases defined in the 'Include cases' section):

- By expression: \_\_\_\_\_
- or case number: \_\_\_\_\_

By case number: Enter case numbers and/or ranges. Example: 1, 3, 5-12  
 By expression: Use the same operators, functions, and syntax as in the spreadsheet formulas: Use variable names or v1, v2... v0 is the case number (v0<4 means cases 1-3)  
 Examples: (a) v1=0 OR age>18 (b) gender='MALE' AND v4<(v5+v6)  
 In case of conflict, variable names take precedence over variable text values. Specify text values by appending \$, as in "value\$".

Ready C1,V1 34 CAP NUM REC

Start | Desktop | 9:03

STATISTICA - [Workbook2\* - Descriptive Statistics (krv\_prasadi\_4\_vj)]

File Edit View Insert Format Statistics Graphs Tools Data Workbook Window Help

Workbook2\*

- Basic Statistics/Tables (krv\_...
- Descriptive statistics dial...
- Descriptive Statistics
- Histogram: WBC
- Histogram: RBC
- Histogram: PLT
- Descriptive Statistics

Descriptive Statistics (krv\_prasadi\_4\_vj)  
Include cases: 35:68

Variable	Valid N	Mean	Median	Mode	Frequency of Mode	Minimum	Maximum	Range	Variance	Std.Dev.	Standard Error
WBC	34	11,1588	10,0000	23,60000	2	5,1000	25,6000	20,5000	28,24	5,3139	0,91133
RBC	34	3,4768	3,5550	3,740000	3	2,0900	5,8000	3,7100	0,55	0,7418	0,12723
PLT	34	305,0588	293,5000	229,0000	2	110,0000	549,0000	439,0000	12188,00	110,3993	18,93332

Descriptive Statistics (krv\_prasadi\_4\_vj) Histogram: WBC Histogram: RBC Histogram: PLT Descriptive Statistics (krv\_prasadi\_4\_vj)

Descriptive Statistics:... Ready C1,V1 34 Set:OFF Weight:OFF CAP NUM REC

Start Outbox - ... Ispiti 07\_0... doktorat doct\_06 - ... statistika izvedbeni ... 4\_vjezbe... podaci radno STATISTI... HR 11:40

