



Statistical Analysis

Part I: One Variable Statistics

min | median | mode | mean (μ) | max | range | quartile | standard deviation (σ) | histograms | Box Plots

Real Life Relevance

Yoda Tips

- Part I: Layout, Navigation, Data Entry
- Part II: Formulas Basics
- Part III: Advanced Analysis
- Part IV: Graphing

One Variable Statistics

- Mean, Median, Mode
- Min, Max, Range, Standard Deviation
- Histograms

Two Variable Statistics

- Correlation
- Linear Regression
- Scatter Plots

• Plan layout
• Organize
• Build
• Enter data

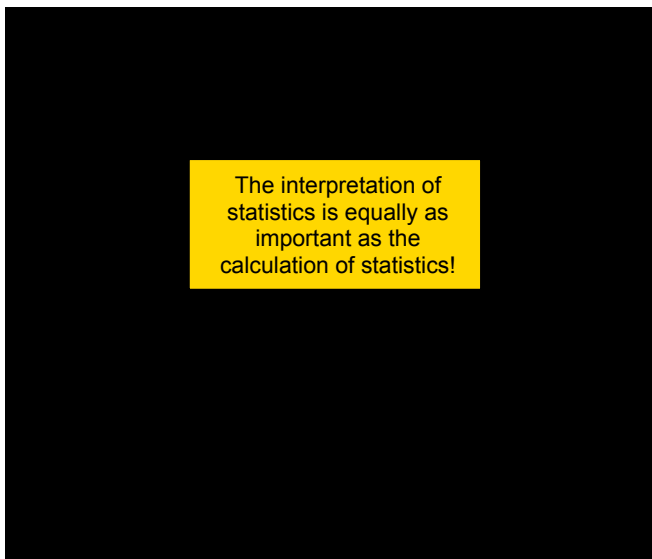
Analyse

- Manipulate
- Calculate
- Create cells
- Interpret

• Coordinate
• Colourize
• Group & Simplify
• Visualize

Present

What does the study of data offer us?
Why do we need these skills?



One Variable Statistics

What can we say about this data?
How can we describe it?

62	94	33
49	41	39
53	34	38
87	44	35
48	48	43
57	31	22
44	46	44
39	39	23
57	53	21
47	32	31
52	59	52
53	46	42
33	43	42
47	42	41
37	41	34
35	36	27
37	33	36
32	45	38
41	38	44
32	34	42
39	41	23
35	38	32
32	35	35
34	34	
50	40	
33	32	
36	32	
33	34	
33	34	

Analyse

- Plan layout
- Organize
- Build
- Enter data


Analyse

- Manipulate
- Calculate
- Create cells
- Interpret

• Coordinate
• Colourize
• Group & Simplify
• Visualize

Present

Gizmos




One Variable Statistics

μ

Which class is smarter?

Class A
μ = 75%

Class B
μ = 80%



One Variable Statistics

μ

Excel Notation Meaning Limitations


=max()

=average()

=median()

=mode()

=min()



One Variable Statistics

μ

A Dilemma!

If you were the teacher might you think the test was too easy?


What "average mark" would the teacher use to justify the test to the principal?

If you were the student who received 58%, what would you tell your parents that the average on the test was?


Who is "right"? Does the real data change you answers?

(reveal for real data)

Class Size	14
Mean	73.9%
Median	79.0%
Mode	45.0%



Yoda Tips Part II



Formulas & working with mathematics in Excel

- Mathematical notation
- Functions
- Cell reference versus a constant
- Absolute vs. Relative cell references
- Show formulas
- Grouping & hiding columns and rows
- Changing column and row widths - en masse, to max. cell width
- Conditional Formatting
- Data Filters