

Microsoft Excel for Statistical Computation

Dr. K. A. Korb
University of Jos

Outline

- Descriptive Statistics
- Inferential Statistics
- If Statements

Overview

- Two ways to create a formula
 - Typing if you know it
 - *Insert function* button if you do not know it
- In formulas
 - Equals sign = indicates formula
 - Letters indicate what function
 - Brackets () indicate the details of the data
 - Commas , separate aspects of the data
 - Colons : indicate ranges
 - Quotes " indicate strings (of letters)

Descriptive Statistics: Central Tendency

- Mean: =average(range)
- Median: =median(range)
- Mode: =mode(range)
- **CHECK:** Check the formulas
 - Use logic to ensure the values are reasonable

Descriptive Statistics: Variance

- Range:
 - =min(range)
 - =max(range)
- Standard Deviation: =stdev(range)
- Variance: =var(range)
- **CHECK:** Check the formulas
 - Use logic to ensure the values are reasonable

Descriptive Statistics: Frequency

- =countif(range,criteria)
 - Numbers
 - Strings in "Quotes"
- =countifs(range,criteria,range,criteria)
- **CHECK:** Add up the frequencies to ensure they equal the total

Descriptive Statistics: Percentage

- =part/whole
 - \$ for keeping cell address the same
 - Use the percentage button
- **CHECK:** Add up the percentages to ensure they equal 100

Inferential Statistics

- Correlation: =correl(array1,array2)
 - Gives correlation *only*, not significance
- t-test: =ttest(arrayA,arrayB,2,2)
 - The first 2 indicates a 2-tailed test
 - The second 2 indicates two samples equal variances
 - Gives the significance only, not the values of t or df

If Statements

- Useful for recoding variables and calculating grades
- =if(criteria,ValueIfTrue,ValueIfFalse)
 - Example: If(A1>=45,"PASS","FAIL")
- Multiple If Statements are embedded in the *ValueIfFalse* portion
- For Recoding:
=if(A1=5,1,if(A1=4,2,if(A1=3,3,if(A1=2,4,if(A1=1,5,"Z"))))
- For grades:
=IF(A1>=70,"A",IF(A1>=60,"B",IF(A1>=50,"C",IF(A1>=45,"D","F"))))