

Simple statistics using the command

Mathematical operations, rows (states), columns (variables), constants

Mahmood81_tahr@uomosul ed.iq

Minitab

Lecture: Simple statistics using the command ,

Mathematical operations, rows (states), columns (variables), constants

Minitab provides both menu-driven options and command-line interface (Session Commands) to perform statistical analyses. Using commands is very efficient when you want to automate tasks, repeat analyses, or document your work.

1-Let

This instruction is used in three cases:

The first is to replace constant data, as in the following example

```
MTB > let k1=10.7
```

The second: It is used with arithmetic substitution sentences in writing the mathematical relationship, as in the following example:

```
MTB > Let k2 = sum(c1)+mean(c2)
```

```
K2 = 15.3
```

The Third is to correct a value in a column variable, as in the following example

```
MTB > Let c2(3) = 60
```

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2-insert

A prompt to insert data and can be used for the following cases:

The first: Insert data at the beginning of one or more columns, as in the following example

```
MTB > insert 0 1 c1
```

```
Data > 2 0 5
```

```
Data > end
```

```
MTB >
```

```
MTB > insert 0 1 c1 c2
```

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```
Data > 10 15
```

```
Data > end
```

```
MTB > print
```

The second: inserting data at the end of a column or several columns, as in the following example

```
MTB > insert c1 enter
```

```
Data > 4 3 0 2 enter
```

```
Data > end
```

```
MTB > print
```

The Third: Insert data into the middle of a column or several columns, as in the following example

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MTB > insert 3 4 c2

Data > 4 0 2 1

Data > end

MTB > print

3-copy

First, copy the data from one or more columns

MTB > copy c1 c2

MTB > copy c1-c4 c8-c11

The Second, copy the columns to a matrix

MTB > copy c12-c14 m1

Provided that the columns are equal or a specific column is copied

MTB > copy c15 m2

The Third, copy the matrix into columns

MTB > copy m1 c15-c18

The Fourth, copy the matrix into the matrix

MTB > copy m3 m4

The Fifth: Copy part of the elements of a column or several columns

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The first case: If we want to copy a specific number or specific rows into a column or several columns, we use the (use) subdirectory with the Copy directive in the following format:

```
MTB > copy c1 c2 ;
```

```
Sub c > use 5:9.
```

```
MTB >
```

Note: The Sub prompt appears when there is a need to write a subcommand with a previous main command, and the prompt appears when writing the semicolon at the end of the previous main command sentence. When we finish writing the subcommand, we put a period to return to the main prompt, and if we want to continue with the subprogram (at the end of the subprogram A semicolon is also written.

The Sixth, we use copy to copy a column or several columns while ignoring a number of rows. This is done using the subcommand (omit means ignore) as follows:

```
MTB > copy c1-c3 c5-c7 ;
```

```
Sub c > omit 4:12.
```

```
MTB >
```

The Seventh, the use and omit commands can be used at the same time, that is, some rows can be copied while others are ignored

```
MTB > copy c1 c2 c3 c4;
```

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Sub c > use 2:6 ;

Sub c > omit 3.

MTB >

Example (1):

C1	C2	C3	C4	C5
3	2	3	0	4
2	4	9	0.5	3
2	6	12	1	2
0	8	2	1.5	1

1- Enter the following data with the appropriate commands

2- Insert the following data at the beginning of the first column

2 0 1

3- Create a matrix from the first and third columns

4- Create a new column from the values of the second column between the first and fourth values

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Some simple statistics:

1-count

Counts the number of values in a specific column and prints the result in a specific cell

```
MTB>count c1 k1
```

2-N

Counts the number of non-missing values in a given column and places the result in a given cell

```
MTB > N c1 k2
```

3-NMiss

Counts the number of missing values in a specific column and places them in a specific cell

```
MTB>NMiss c1 k3
```

4-mean

Calculates the arithmetic mean of a specific column and places the result in a specific cell

```
MTB>mean c1 k4
```

5-Aver

Calculates the arithmetic mean for a specific column and places the result in a specific cell (the same result as the mean)

```
MTB>Aver c1 k5
```

Note: When calculating any value for rows, is preceded by (R)

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```
MTB > R count c1-c3 c4
```

```
MTB > R N c1-c3 c5
```

Counts the number of non-missing values in these rows And puts the output in C5

```
MTB > R maen c1-c3 c6
```

```
MTB>R Aver c1-c3 c7
```

```
MTB > R count c1-c3 c7
```

6-Median

To find the median of a specific column and place the value in a specific cell

```
MTB > Median c1-c3 k3
```

7-maxi

To find the highest value and put the result in a specific cell

```
MTB > maxi c1 k10
```

8-mini

To find the lowest value and put the result in a specific cell

```
MTB > mini c1 k11
```

9-Std

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To calculate the standard deviation for a particular column

```
MTB > Std c1 k12
```

```
MTB>R Std c1-c3 c8
```

10-log ten

To calculate the logarithm to base 10

```
MTB > log ten 20 k13
```

```
MTB > log ten c1 c8
```

11-expo

$e^2 e^{-0.1}$

```
MTB> let k10 = exp(2)
```

```
MTB>let k11 = exp(-0.1)
```

```
MTB> let c4 = exp(c2)
```

12-Round

Rounding is instructed to round to the nearest integer

```
MTB > Round 2.2 k7
```

```
MTB > let c5 = round(c4,2)
```

13-correlate

To calculate the correlation between two codes or several columns

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MTB > corr c1 c2

MTB > corr c1-c3 M1

1	<i>r12</i>	<i>r13</i>
<i>r21</i>	1	<i>r23</i>
<i>r31</i>	<i>r32</i>	1

Dr. Mahmood M Taher