Mahmood81_tahr@uomosul ed.iq

Minitab

Lecture: Matrices, mathematical operations, addition, subtraction, division, multiplication

- In Minitab, you can store and manipulate **matrices** using **matrix storage commands**. Matrices are stored as M1, M2, … and can contain numbers arranged in rows and columns.

MTB > read 2 3 M1

Data > 2 4 0 enter

Data > 0 3 1 enter

MTB>

The matrix is transformed

MTB > Tran M1 M2

Note: To find the inverse of a matrix, it must be a square

MTB > Tran M1 M2

MTB > inve M3 M4

Define a matrix containing a specific number

1- direct method

2- an indirect method

MTB > Define 2 3 4 M5

Mahmood81_tahr@uomosul ed.iq

$$M5 = \begin{bmatrix} 2 & 2 & 2 & 2 \\ 2 & 2 & 2 & 2 \\ 2 & 2 & 2 & 2 \\ 2 & 2 & 2 & 2 \end{bmatrix}$$

Convert the diagonal of a matrix to a column

MTB > diag M3 c1

Convert the elements of a specific column into a diagonal matrix

C2
4
5
0
1

To find the distinct roots of the matrix use the following instructions:

First case:

MTB > eigen m3 c1

The second case:

MTB > eigen m3 c1 M4

Arithmetic operations on matrices, vectors, etc

MTB > Add M1 M2 M3

MTB > Add 0.5 M2 M4

MTB > Subt M1 M2 M5

Interpretation of it

M5=M2-M1

MTB > subt 2 M2 M6

MTB > multi M1 M2 M7

MTB > mult 0.5 M2 M8

Some simple instructions on columns (variables)

1-Delete

This instruction is used to delete a row or group of rows from a column or group of columns, as in the following example:

MTB > Delete 1:5 c1

MTB > Delete 1:5 c2 c7 c10

2-sort

Instructing the arrangement or sorting, data can be arranged ascending (ascending) or descending (descending)

MTB > sort c1 - c4 c6 - c9 ; occending

Sub c > by c1

MTB > sort c10 - c13 c15 - c18 ; descending

Sub c > by c11 ;

Sub c > Descending.

Mahmood81_tahr@uomosul ed.iq

MTB >

3-rank

Instructions to find the rank of the data

MTB > rank c3 c4