CUSTOMIZING THE EXTENSIONS OF FILES

1. It is convenient to see the extensions of the files, because some times there are two files with the same name but different extensions. To customize that, perform the **sequence**:

   Organizar (At the left, in the top part of the screen)

   Opciones de Carpeta (Roughly at the center)

   Ver (At the center, at the top)

   Unselect Ocultar extensiones ... (Fifth line starting from the bottom)

   Click on **Aceptar**

WORKING WITH EXCEL

1. To change the edition language to **English**, perform the **sequence**:

   Archivo (At the left, in the top part of the screen)

   Opciones (At the bottom, in left panel)

   Idioma (Roughly at the center, in left panel)

   Move **English** to the first position in the **three** displays at the center of the screen

   Click on **Aceptar**, and **Restart** EXCEL

2. Once again with EXCEL, perform the **sequence**:

   File (At the left, in the top part of the screen)

   Options (At the bottom, in left panel)

   Add-Ins (At the bottom, in left panel)

   Manage Excel Add-Ins (At the bottom, in center panel). Click there on **Go**

   Select the two **Data Analysis Tools**

   Accept

3. A **Data Analysis** label will appear at the top right part of the screen when you click on **Data**.

4. Data Analysis contains **macros** and **tools** for computing the usual summary statistics. Select one, and follow the instructions there. Results will appear in a new spreadsheet.

5. Working with the editor, copying, fonts, colors, ..., follows **standard rules**.

SUMMARY STATISTICS AND MATRICES WITH EXCEL

1. Open a data file, and assign a **name** to the data set. For instance, `data`. The **sample size** n is obtained using

```
ROWS(data)
```

2. Find the **sample mean vector** using Data Analysis. Arrange its coordinates as a **column range**, and call it m.

3. To get the **sample covariance matrix**, select a $p \times p$ range in your spreadsheet and **click** on the **equal** (=) sign.

4. In the **command line** type, at the **right** of the = sign,

```
MMULT(TRANSPOSE(data);data)/ROWS(data) -
        MMULT(m;TRANSPOSE(m))
```

   You may **copy** the sentence above from a *.txt file.

5. Click **simultaneously** Control + Shift, and then **Enter**.

6. The sample covariance matrix should appear on your spreadsheet.

7. For obtaining the **diagonal** of the matrix above, drag the proper modification of the syntax below,

```
IF(ROW(A1) = COLUMN(A1);1;0) ,
```

   that constructs the **identity matrix**.

8. The syntax

$$= \{2\backslash 3\backslash 3; 7\backslash 8\backslash 9\}$$

   on a 2×3 range + **Control** + **Shift** + **Enter** defines directly the matrix

$$\begin{pmatrix} 2 & 3 & 3 \\ 7 & 8 & 9 \end{pmatrix} .$$

   Notice the use of the **sequence** '$\{\cdots\}$' in the instruction. If you want a matrix with **text**, $= \{\text{"A"}\backslash 3\backslash 3; 7\backslash 8\backslash 9\}$ produces

$$\begin{pmatrix} \text{A} & 3 & 3 \\ 7 & 8 & 9 \end{pmatrix} .$$

9. **Easy to make mistakes**. Click on **Save** after performing **every stage** of the way. Thus, if you need to restart the process, you begin from the step **immediately** before the failure.