EXERCISES OF EXCEL

Subject: Computer Science
Course: 1^{st}
Degree: Business Administration and Management
Year: 2015-2016

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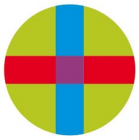

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1. Introduction to Excel

1. The following data table contains the population of several cities by years (in thousands of inhabitants):

City	2001	2006	2011	2014
Madrid	2957	3129	3265	3165
Barcelona	1505	1606	1615	1602
Valencia	750	805	798	786
Zaragoza	611	649	675	666

It is asked:

a) Enter the population data in an Excel worksheet with the same table structure.

b) Enter the population data of year 1996 in a new column before the column of year 2001.

City	1996
Madrid	2867
Barcelona	1509
Valencia	747
Zaragoza	602

c) Enter the population data of the Sevilla city in a new row below the Valencia row.

Year	1996	2001	2006	2011	2014
Sevilla	697	684	704	703	697

d) Save the workbook in a file with name population.xlxs.

e) Copy the row of Barcelona and paste it in row 10.

f) Copy the column of year 2014 and paste it in column H.

g) Copy the range with the population of Madrid and Barcelona in years 2001, 2006 and 2011 in range F8:H9.

h) Save the modified workbook in another file with name modified-population.xlxs

2. Open the Excel file http://aprendeconalf.es/office/excel/exercises/introduction/exercise-1.xlsx and do the following operations:

a) Enter the word Excel in the cell B8.

b) Enter the current year in cell C8.

c) Copy the content of cell A2 in cell C10.

d) Copy the content of range B8:C8 to range D12:E12.

e) Remove the content of cell A5.

3. Open the Excel file http://aprendeconalf.es/office/excel/exercises/introduction/exercise-2.xlsx and do the following operations:

a) Replicate the content of cell A6 to A12.

b) Auto fill the content of cells D6 to J6 with the days of the week.

c) Auto fill the content of cells B6 to B12 with the next dates to the date in B6.

d) Auto fill the content of cells C6 to C12 with the numbers of series that starts with numbers in cells C6 and C7.

The Excel file http://aprendeconalf.es/office/excel/exercises/introduction/exercise-3.xlsx contains the expenses of an academy for several months. Open it and do the following operations:

a) Rename Sheet1 as Expenses.

b) Insert a new row before row 1 and enter the text "CEU Academy: 1st quarter expenses" in cell A1.

c) Merge and center cells A1 to E1.

d) Format cell A1 with 18 pt boldface Arial font family and blue colour.

e) Increase the height of row 1 to 50 pt.

f) Align vertically text of cell A1 to the top.

g) Adjust the width of column A to the content of its cells.

h) Wrap text of cell E2.

i) Center content of cells A2:E2.

j) Format numeric cells to display values in currency format with 2 decimal places.

k) Format cells E3:E9 with boldface font.

l) Apply a thick top border to cells A2:E2.

m) Apply a thin top and thick bottom borders to cells A9:E9.

n) Apply a dark blue lighter 60 % colour background to cells A2:E2 and A9:E9.

ñ) Insert the text "GRAND TOTAL" in cell C12.

o) Copy value of cell E9 and paste it to cell E12.

p) Copy format of cell E9 to cell E12.

q) Format cells C12:E12 with 14 pt font.

r) Save the file as a new file named ceu-academy-expenses.xlsx.

2. Formulas

1. The following data table contains the income of a company by quarters:

1st Quarter	2nd quarter	3rd quarter	4th quarter
€480.000,00	€560.000,00	€320.000,00	€720.000,00

Open the Excel file http://aprendeconalf.es/office/excel/exercises/formulas/exercise-1.xlsx and do the following operations:

a) Use a formula to calculate the fixed commissions in range B5:E5. The amount of fixed commissions appears in cell B15.

b) Use a formula to calculate the fixed commissions in range B6:E6. The percentage of variable commissions appears in cell B16.

c) Use a formula to calculate the Earnings Before Taxes (EBT), subtracting commissions to income, in range B7:E7.

d) Use a formula to calculate taxes in range B9:E9. The percentage of taxes appears in cell B17.

e) Use a formula to calculate Profit After Taxes (PAT), subtracting taxes to EBT.

f) Use a formula to calculate the annual income, fixed commissions, variable commissions, EBT, taxes and PAT.

2. A company has had annual sales of € 1.200.000 in 2015. The sales increase forecast for next years appears in the next table.

2016	2017	2018	2019	2020
10 %	12 %	14 %	16 %	18 %

A 30 % of expenses is assumed every year.

Open the Excel file http://aprendeconalf.es/office/excel/exercises/formulas/exercise-2.xlsx and do the following operations:

a) Use a formula to calculate the sales forecast for every year in cells C4:G4 according to the sales increase percentage of cells C12:G12.

b) Use a formula to calculate the expenses for every year assuming the constant percentage over sales of cell C14.

c) Use a formula to calculate the profit for every year.

d) Use a formula to calculate the average annual sales, expenses and profit for years from 2015 to 2020.

3. A car company have dealerships in several cities. The next table shows the number of vehicles sold in the last month in every dealership.

Vehicle	Madrid	Barcelona	Valencia	Sevilla
Van	5	4	2	1
Lorry	3	3	1	1
Car	10	10	8	12
Motorcycle	30	25	40	20

If van price is €12,800, lorry price is €27,000, car price is €11,750 and motorcycle price is €4,200, do the following operations:

a) Create a new Excel workbook and enter the previous table with the vehicle sales in range A1:E5.

b) Enter the vehicle prices in range F2:F5 with the header "Unit price" in cell F1.

c) Use a formula to calculate the total sales by vehicle type in range G2:G5 and enter the header "Total by vehicle" in cell G1. In the formula you have to use references to the cells with the unit prices.

d) Use a formula to calculate the total sales by cities in range B6:E6 and enter the header "Total by city" in the cell A6. In the formula you have to use references to the cells with the unit prices.

e) Use a formula to calculate the total sales in cell F7 and apply it a bold face font format.

f) Save the workbook with name car-dealerships.xlsx.

3. Descriptive Statistics

1. A poll on voting intention of citizens for the next election has surveyed 400 people of the three million people with right to vote who live in a city. Identify:

a) The study population and its size (N).

b) The sample and its size (n).

c) The individual.

d) The studied variable and its scale.

2. It is intended to conduct a study on the number of women looking for a job certain autonomous region. It is asked:

a) Describe the population and the sample to be studied.

b) Identify the individual or elementary unit in the study.

c) Define the variable to be studied and classify it correctly.

3. The manager of a publishing house aims to determine the areas of knowledge of the books with greater acceptance in the market. Due to the large number of books for sale, he only study 15 % of all books published. Answer the following questions:

   a) What is the study population?

   b) What is the sample selected?

   c) What is the individual?

   d) What is the variable variable to study? Classify it.

4. The director of a small company has conducted a survey among his workers that asked for the number of extra hours that they need every week. Identify:

   a) The study population.

   b) The selected sample.

   c) The studied individual.

   d) The studied variable and its scale.

5. Classify, giving a reasoned answer, the following variables acording to their scale:

   a) Number of inhabitants per square kilometer.

   b) Types of canned food products.

   c) Family income of a group of families.

   d) Number of fruits per tree.

   e) Level of education.

   f) The start-number of a runner.

   g) The temperature in degrees celsius.

   h) The job function in a department of a company.

6. Give 3 examples of each type of economics variables according to their scale.

7. Classify the following variables according to their categories:

   a) Grade of an exam (SS, AP, NT, SB, MH).

   b) Category of a hotel ($\star$, $\star\star$, $\star\star\star$, $\star\star\star\star$, $\star\star\star\star\star$).

   c) Amount of money, in €, that a young people spends on leisure ($0-10$, $10-30$, $30-60$).

   d) Price of a bus ticket in € (the exact amount).

   e) Surface in m^2 of a house ($0-50$, $50-80$, $80-100$, $110-200$, $200-$).

8. Transform the variable that measures the surface of a house, in m^2, in an variable with ordinal scale, specifying their categories.

9. The manager of an assembly plant in a car factory wants to study the productivity (number of assembled units per hour) of their workers. He measures the productivity taking note of the units leaving the conveyor belt of each worker. Classify the variable that measures the productivity. Transform this variable in variables of interval, ordinal and nominal types, giving their categories in each case.

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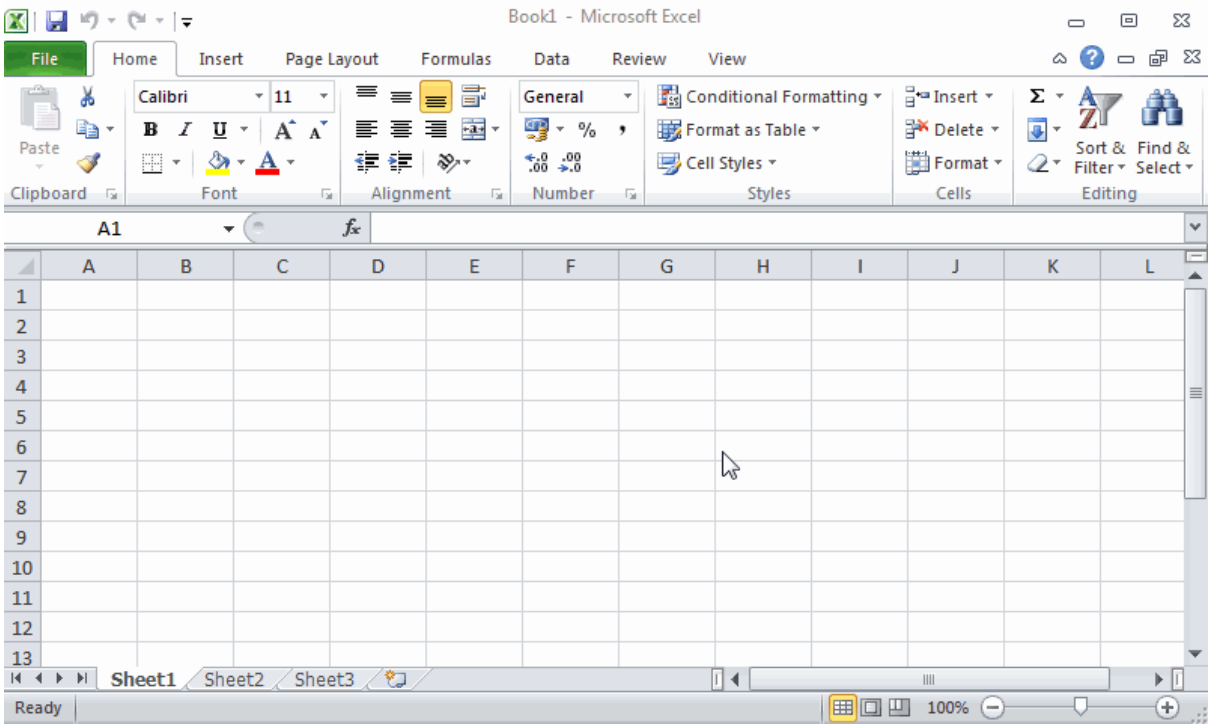
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