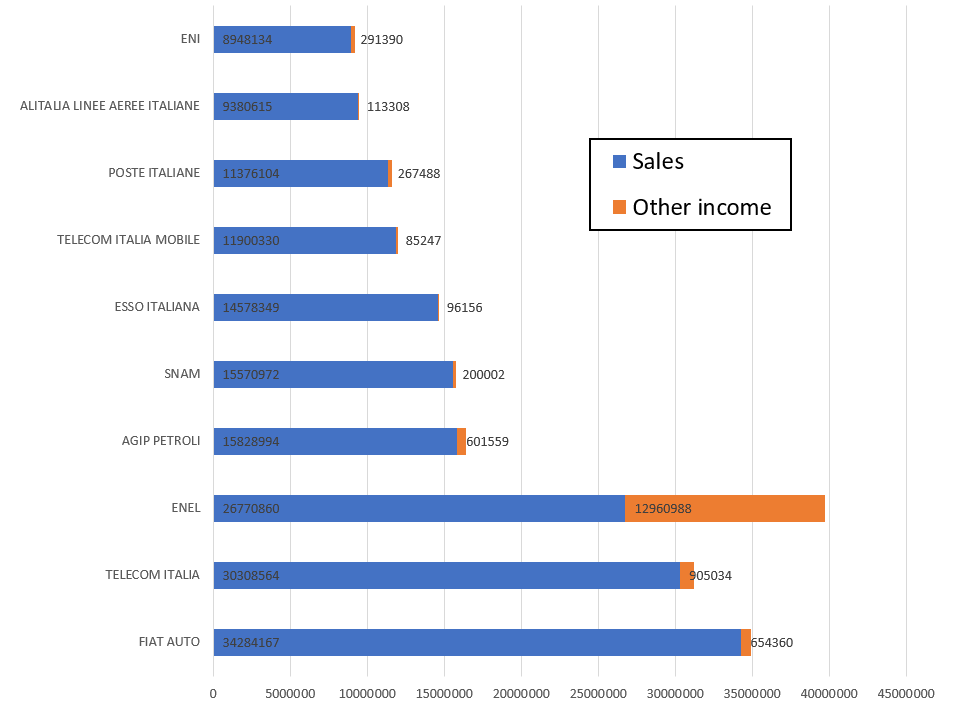
Free University of Bolzano Bozen – Faculty of Economics and Management

Information Systems and Data Management 27006 exam

# Rules

* + Communication with other people or among students is forbidden. Portable communication devices must be turned off. Opening any communication program on the computer is not allowed and is considered cheating.
  + You are responsible for the correct copy of your files.

You have 50 minutes starting from now.

Your files are in **\\ubz01fst\courses\exam\_coletti\YOURNAME** . You may work directly here or alternatively copy the files on your Desktop and at the end of the exam copy them back on the network folder overwriting the original files.

## Exercise Excel

Open file **companies.xlsx** with Microsoft Excel 2016 and

in sheet **List**

* fill column P with **Sales** divided by **Production**, rounded to two decimal digits;
* fill column Q with “no” if Contribution is 0, otherwise with a dash;
* to column **Contribution** apply a conditional formatting to highlight in green all the contributions larger than 0.

In a new sheet

* build a stacked bar chart displaying the first ten companies’s **Sales** and **Other income**. Insert the data labels and the legend, with a large font, as in the picture.

In a new sheet

* build a pivot table with the averages of **Salaries** by **Sector** only for the companies with **Contribution** larger than 0.

In a sheet **Solver**

* your goods are stored in 2 warehouses and you have to ship them to 4 customers. Each combination warehouse-customer has a different shipping cost. You have to find the optimal warehouse-customer allocation to minimize the total shipping cost, sending to each customer exactly the ordered quantity of goods. Goods cannot be split, they are integer
* build an automatic date as year with the current year, the current month plus 6 as month and the 15 as day.

**TURN PAGE 🡪**

In a new sheet

* build the table for a mortgage loan of 100 000 € to be paid back in 10 yearly payments with an interest rate of 1%. Suppose that immediately after the fifth payment the interest rate increases to 3% and adjust the remaining payments accordingly.

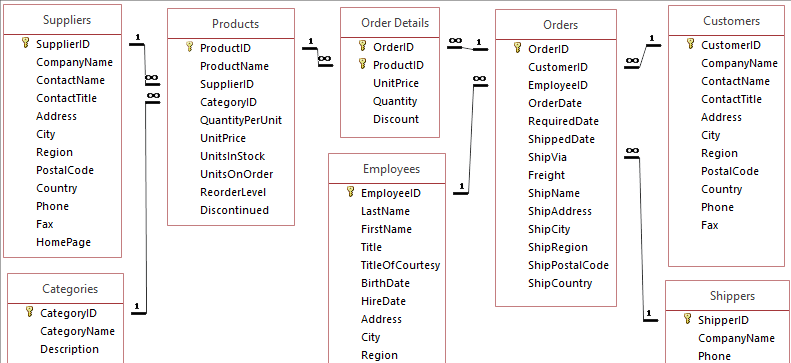
Build a VBA function called avWithout3 which accepts as input a range of number and, going through the range, calculates the average of the squares of the values.

## Save and return:

* **companies.xlsm (or companies.xlsx if you have not done VBA)**

## Exercise Access

Open database **Northwind.accdb** with Microsoft Access 2016 and



* create query **query1** that calculates how many days, how many months and how many years is each order old (fields: OrderID, daysOld, monthsOld, yearsOld);
* create **query2** that displays the orders which contain at least one discounted item (fields: OrderID);
* create **query3** that displays the suppliers with the count of how many products with UnitsInStock plus UnitsOnOrder between 20 and 40 (fields: CompanyName, count).

## Save and return:

* **Northwind.accdb**