Free University of Bozen Bolzano – Faculty of Economics

Information Systems and Data Management exam

# Rules

* + Communication with other people or among students is forbidden. Opening any communication program on your computer or other devices is not allowed and is considered cheating.
  + It is forbidden to distribute any file or exam text until the day after.
  + You are responsible for the correct copy of your files.

**Specific Covid rules for online exams.** You receive your exams via email. Do not work inside the email attachment, download them and work on your Desktop. At the end of the exam send them via email answering to my original email. Pay attention to the time, that you have to handle yourself.

You have 50 minutes starting from now.

## Exercise Excel

Open file **condominium.xlsx** with Microsoft Excel 2016. In sheet **Balance** you find the balance of a small condominium, with the 8 owners, their ownership quote in thousands according to which some expenses must be split, the individual water amount in cubic meters, the remaining from previous year’s balance and the payments of this year. Cells that you have to fill in are highlighted in yellow.

* Split the **Administration** expenses (column D) in such a way that each owner pays the same amount.
* Split the **Insurance**, **Maintenance**, **Electrical power**, **Cleaning** expenses (columns E, F, G, H) according to the quote in **thousands** (column C), using an appropriate relative reference. *Hint: their sum must be the same as the number below.*
* Split the **Water** expenses (column J) according to the water amounts in **cubic meters** (column I). *Hint: their sum must be the same as the number below.*
* Calculate the **Total expenses** (column K) summing the previous expenses.
* Calculate the **Current** (column N) as **Remaining** (column L) plus **Payments** (column M) minus **Total expenses** (column K).
* Fill **Positive current** (column O) with **Current** if positive, otherwise nothing. Fill **Negative current** (column P) with **Current** if negative, otherwise nothing.

In a new sheet insert a loan table for a loan of 5000 euro to pay back in 10 years with yearly constant payments and a constant interest rate of 1.5%.

In sheet Solver, you have a shop which sells three types of products. These products have a unit profit, a cost and they use storage space as indicated in the table. You have 100 000 € to place an order to your supplier and 2560 units of space available in your storage. You are sure to sell them all. Determine the amounts to order for the three products to maximise the profit. *Hint: my result is 0, 28, 1440.*

**TURN PAGE 🡪**

In sheet **Link**:

* remove the hyperlinks from all web addresses;
* write a VBA function called **perc\_inf** that takes as input a number **N** and a range of cells **R**. The function goes through the range **R** and returns the percentage of values of **R** which are smaller than **N**. *You can test your function in the sheet, the result is è 0,448.*

In a new sheet

* import the table contained in file **import.txt**;
* format columns B and C as currency with three decimal digits.

## Save and return

* **condominium.xlsm** or **condominium.xlsx** (if you did not do VBA exercise)

## Exercise Access

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

**Diagram

Description automatically generated**

* create a new table **Colours**, with field **codeRGB** (primary key) and **nameColour**. **codeRGB** is text limited to 6 characters (no validation rule, just limit the field). Insert three colours with **codeRGB** invented by you. Relate this table with **Color** field in table **Cars** in such a way that the user gets a drop-down menu with the colours’ names. Do not enforce referential integrity;
* create a query which lists the paid repairs and a field containing 6 months after the repair’s end (6 months after **End**). Fields: **ID** of repair and date.

## Save and return:

* **CarWorkshop.accdb**