Information Systems and Data Management exam

Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Surname \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Number:\_\_\_\_\_\_\_   
**(write them now!!!)**

You have only one paper. No questions are allowed, if you have doubts on the theoretical questions fell free to write them on this paper. You have 45 minutes starting from now.

## Exercise Relational databases

Draw the schema of this database, using at least (more if necessary): 3 tables, a junction table, 15 fields in the entire database. Try to make the database as complete as possible, keeping it simple and not contorted. You must indicate very clearly field names, Access field types, primary keys, relations with their “1” and “many” sides and the fields involved in the relations, required fields, at least two validation rules. For all the fields whose name is not obvious, you must also include a small comment that lets everybody understand what the field should contain. You must also justify non-standard choices.  
Moreover, suggest two new queries (in English not in Access nor in SQL): one which involves at least two tables and another one which needs a summary query to be implemented.

Workers’ turns organization: this temporal database organizes the working turns in a supermarket. Each worker has starting and ending dates and times for each working place. He can, for example, work on 27/9/2012 from 8 to 12 at the cash registers and then from 12 to 16 at the meat counter. Moreover, each worker has a specific role for each place, for example the previous person may be a simple cashier in the morning but when at the meat counter may act as responsible. The database must be able to answer to the question “For how many hours last month did we have Mr Smith as customer care desk responsible?”

## Exercise Theoretical questions

For each sentence, check either the TRUE or the FALSE box.

**According to Moore’s law every 18 months**

TRUE  FALSE  software becomes slower

TRUE  FALSE  hardware becomes faster   
TRUE  FALSE  hard disks’ capacity doubles   
TRUE  FALSE  processors’ speed doubles

**~~This is an input only device~~**

~~TRUE  FALSE  mouse  
TRUE  FALSE  keyboard  
TRUE  FALSE  monitor  
TRUE  FALSE  modem~~

**SSD**TRUE  FALSE  means Standard Slow Disk  
TRUE  FALSE  can be used as a hard disk  
TRUE  FALSE  does not have moving parts

TRUE  FALSE  is more expensive than hard disks

**Commercial software**

TRUE  FALSE  must be paid

TRUE  FALSE  is explicitly designed for the customer

TRUE  FALSE  is freeware

TRUE  FALSE  is usually developed by public institutions

**This file may be run**

TRUE  FALSE  a program  
TRUE  FALSE  example.docx

TRUE  FALSE  example.com

TRUE  FALSE  example.zip

**With “write” permission on directory AAA, you may**

TRUE  FALSE  list content of directory AAA

TRUE  FALSE  create a file inside directory AAA

TRUE  FALSE  create a subdirectory inside directory AAA

TRUE  FALSE  assign to another user read permission on directory AAA

**If you go over quota at UNIBZ, it can happen that**

TRUE  FALSE  you cannot login

TRUE  FALSE  you do not find your Desktop as you modified it on your last login

TRUE  FALSE  you cannot receive emails

TRUE  FALSE  you cannot save files

**If you send an email from your PEC account to a standard (not PEC) account**

TRUE  FALSE  you have a legal sent proof

TRUE  FALSE  you have a legal receipt proof

TRUE  FALSE  you have a legal read proof

TRUE  FALSE  according to Italian law, it is like a “Raccomandata”

**If you type inside Google the search string** UNIBZ class , **you can find webpages containing**

TRUE  FALSE  only the sentence “classrooms at UNIBZ”  
TRUE  FALSE  only the sentence “UNIBZ and class courses”  
TRUE  FALSE  only the sentence “UNIBZ courses”  
TRUE  FALSE  only the sentence “class courses”

**This is a good password:**

TRUE  FALSE  xfv45

TRUE  FALSE  pqrstuvwxyz

~~TRUE  FALSE  Alex!1987~~

TRUE  FALSE  743342443

**These files must absolutely be included in a backup**

TRUE  FALSE  your thesis, while it is in progress

TRUE  FALSE  the solution of past computer science exams

TRUE  FALSE  the latest music you downloaded

TRUE  FALSE  the pictures of your last vacation