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| unibz__FacEconomics_black | Name  ID Nr.  Exam  Exam Code  Exam Date  Signature | \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  Information Systems and Data Management  27006  07/02/2016  \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |

You have only 3 sheets of blank paper, do not ask for extra ones. No questions are allowed, if you have doubts on the theoretical questions fell free to write them on this paper. You have 50 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, indexed 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 that involves at least two tables and is not a summary query and another one that needs a summary query to be implemented.

**Primary school**: this temporal database handles the organization of one elementary school: the children, the classes (i.e. which children are in which class), the levels (1st, 2nd, 3rd, 4th, 5th), the teachers supposing that each class has only one teacher per school’s year, but who can suddenly change for sudden reasons. The database must be able to answer the questions “Who are the children to which Miss Smith was teaching in school’s year 2012/13?” and “How many times has student Jack Dumble repeated the 3rd year?”.

Exercise Theoretical questions

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

**TRUE  FALSE  You have written your name above on this paper**

**To quickly reach the Task Manager you press**

TRUE  FALSE  CTRL ALT DEL on an English keyboard  
TRUE  FALSE  CTRL ALT END on an English keyboard  
TRUE  FALSE  STRG ALT ENTF on a German keyboard

TRUE  FALSE  STRG ALT SHIFT on a German keyboard

**In the Task Manager you can**

TRUE  FALSE  see the running programs  
TRUE  FALSE  stop the running programs   
TRUE  FALSE  restart the computer

TRUE  FALSE  disconnect the Internet connection

**An open data format**

TRUE  FALSE  is usually handled by a non-profit organization or a public institution  
TRUE  FALSE  is an industrial secret   
TRUE  FALSE  is publicly known, but any change to it is decided by a private company

TRUE  FALSE  is, for example, .doc  
TRUE  FALSE  is, for example, .docx

**TURN PAGE 🡪**

**When you go over quota on your user’s profile**

TRUE  FALSE  you receive an email warning  
TRUE  FALSE  you may have problems saving files  
TRUE  FALSE  you cannot access emails anymore  
TRUE  FALSE  you need to contact the system administrators

**This device acts as a server**

TRUE  FALSE  your computer when sending a document to the printer

TRUE  FALSE  the university’s website

TRUE  FALSE  a scanner

TRUE  FALSE  a VoIP telephone while not talking

**Google search engine**

TRUE  FALSE  scans trillions of web pages  
TRUE  FALSE  scans all the web pages which exist  
TRUE  FALSE  uses a crawler’s technique  
TRUE  FALSE  is the search engines’ market leader

**At full speed LTE is faster than full speed**

TRUE  FALSE  UMTS   
TRUE  FALSE  ADSL  
TRUE  FALSE  optical fiber   
TRUE  FALSE  Wi-Fi   
TRUE  FALSE  WiMax

**When you digitally sign a document**

TRUE  FALSE  you use a scanner

TRUE  FALSE  you use your private key

TRUE  FALSE  you use your public key

TRUE  FALSE  you need a special pen

**This is a dangerous behaviour against viruses**

TRUE  FALSE  when installing a program, answering quickly Yes to every question   
TRUE  FALSE  visiting websites which open a lot of pop-up windows  
TRUE  FALSE  opening the attachment of an unrequested email  
TRUE  FALSE  inserting a USB pendrive without an antivirus running

**This is a feature of RAID1**

TRUE  FALSE  using two identical disks

TRUE  FALSE  being safe against hardware failure

TRUE  FALSE  being safe against viruses

TRUE  FALSE  being safe against human error

TRUE  FALSE  being faster than RAID0

TRUE  FALSE  being faster than RAID10