Information Systems and Data Management 5 exam

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

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, 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 which involves at least two tables and another one which needs a summary query to be implemented.

**Phone medical emergency service 118**: this dynamic database organizes help requests received by a telephone emergency service. The database must handle the identity of the caller and the description of problem and severity. It can happen that the same person calls for assistance more than once in his life. Moreover, each telephone request can result in no intervention or one or several medical doctors can be sent to the caller. The database must be able to answer to the question “Who and at when assisted Mr. Smith for his heart attacks during August 2013?”

|  |  |
| --- | --- |
| Hallo. I am Mrs. Smith. I call for my husband. He is having a heart attack right now. | OK, stay calm. How old is your husband? Describe his symptoms clearly. And tell me your address, we will send Dr. Clark immediately. |
| … 2 hours later, after Dr. Clark’s intervention… | |
| Hallo. I am Mrs. Smith again. My husband’s conditions have worsened! | Ok Mrs. Smith. We will send right now Dr. Jones with an ambulance to carry your husband to the hospital! |

## Exercise Theoretical questions

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

**1000 MB**

TRUE  FALSE  can contain 100 films in good quality

TRUE  FALSE  can contain 100 pictures in good quality

TRUE  FALSE  can contain a lot of text in txt format

TRUE  FALSE  is approximately 1 TeraByte

**Key ENTF on a German keyboard**

TRUE  FALSE  is key ALT on an English keyboard

TRUE  FALSE  is key CTRL on an English keyboard

TRUE  FALSE  is used to create key combinations for cut, copy, paste

TRUE  FALSE  is used to produce capital letters

**TURN PAGE 🡪**

**When you double-click on file called document.docx**

TRUE  FALSE  document.docx runs  
TRUE  FALSE  Microsoft Word is usually activated and opens document.docx  
TRUE  FALSE  a link to file document.docx is created   
TRUE  FALSE  document.docx starts and does something

**This file very probably contains an image**TRUE  FALSE  C:\Users\PColetti\Pictures\list.txt  
TRUE  FALSE  C:\Users\PColetti\Desktop\screenrec.jpg   
TRUE  FALSE  C:\Users\PColetti\Documents\exam.bmp

TRUE  FALSE  C:\Users\PColetti\Music\top10.wav

**This connection has a theoretical speed of 30 Mbps or more**

~~TRUE  FALSE  GPRS in good coverage~~

TRUE  FALSE  ADSL close to phone company station

TRUE  FALSE  UMTS in good coverage

TRUE  FALSE  Wi-Fi close to receiver

**Using Google’s advanced search, you have the possibility to search for pages based on**TRUE  FALSE  page’s language  
TRUE  FALSE  page’s last update

TRUE  FALSE  pages which do not contain some words

TRUE  FALSE  page’s type (html, pdf, Word document, …)

**This is a tool mostly used to protect a site or single email account from spam**

TRUE  FALSE  antivirus

TRUE  FALSE  firewall  
TRUE  FALSE  black lists   
TRUE  FALSE  antispam

**This security measure is explicitly required by Italian law 196/2003**TRUE  FALSE  users must receive specific training on security  
TRUE  FALSE  each user must have a second recovery password  
TRUE  FALSE  users can authenticate only through a password and not through other means

TRUE  FALSE  users’ password must be at least 8 characters long

**This is an email reader**

TRUE  FALSE  Mozilla Firefox

TRUE  FALSE  Google Chrome

TRUE  FALSE  Microsoft Outlook

~~TRUE  FALSE  Safari~~

**A Trojan horse’s main feature is that it**

TRUE  FALSE  displays advertisement  
TRUE  FALSE  opens ports on your computer to let other users enter

TRUE  FALSE  arrives as a good program or hidden inside a good program

TRUE  FALSE  changes your browser’s homepage

**If you want to encrypt a directory for your personal usage only**

TRUE  FALSE  you can use a compression program

TRUE  FALSE  private and public keys must be provided by a certification authority

TRUE  FALSE  you must use a OTP

TRUE  FALSE  private and public key are the same one