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 fell free to write them on this paper.

You have 45 minutes starting from now.

## Exercise Relational databases

Draw the architecture of this database, using at least (more if necessary): 2 tables, a junction table, 5 fields per table. Try to make the database as complete as possible, keeping it simple and not contorted. You must indicate very clearly field names, field types (numeric, text, memo, date, yes/no), primary keys, relations with their “1” and “many” sides and the fields involved in the relations, required fields. 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 a new query which involves at least two tables and suggest another new query which needs a summary query to be implemented.

**Recruitment company:** this database handles the data of a recruitment company. For each worker, all his working periods should be recorded and each one with all the acquired skills he/she has learnt in that period and their level of expertise. The database must be able to create a report of the career of each worker and to retrieve all the workers whose profile satisfy a given list of skills and expertise.

# Exercise Theoretical questions

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

**~~This is a quad core processor:~~**

~~TRUE  FALSE  Intel Core2 Quad  
TRUE  FALSE  inkjet multifunction  
TRUE  FALSE  AMD Phenom II X4  
TRUE  FALSE  SSD 4~~

**It is common to find on the market (in 2011) this product:**

TRUE  FALSE  USB pen drive of 16 Megabytes

TRUE  FALSE  SSD disk of 32 Gigabytes  
TRUE  FALSE  internal hard disk of 500 Gigabytes

TRUE  FALSE  DVD of 4 Gigabytes

TRUE  FALSE  CD of 4 Gigabytes

TRUE  FALSE  Blu-ray disk of 4 Gigabytes

**Commercial software**

TRUE  FALSE  is distributed freely on the producer’s website

TRUE  FALSE  is always open source

TRUE  FALSE  must usually be paid only after having evaluated it for a period of time

TRUE  FALSE  is designed specifically for the customer’s needs

**~~Windows Vista Business edition~~**~~TRUE  FALSE  is shareware  
TRUE  FALSE  is better than Windows Vista Ultimate edition  
TRUE  FALSE  has appeared on the market after Windows XP Home edition  
TRUE  FALSE  has appeared on the market after Windows XP Professional edition~~

**To move file F from directory A to directory B**TRUE  FALSE  right-click on file F and select copy, right-click on directory B and select paste  
TRUE  FALSE  right-click on F and select copy, open B, right-click inside B’s windows and select paste  
TRUE  FALSE  select file F, press CTRL+X, select directory B, press CTRL+V   
TRUE  FALSE  right-click on directory A and select copy, right-click on directory B and select paste

**~~World Wide Web~~**

~~TRUE  FALSE  is the same as WWW  
TRUE  FALSE  is the same as Intranet~~

~~TRUE  FALSE  is the same as Internet~~

~~TRUE  FALSE  is the same as VPN~~

**An email from a PEC account to a not PEC account**TRUE  FALSE  always guarantees the sender’s identity to the receiver  
TRUE  FALSE  always gives back a receipt’s proof if the email has been received   
TRUE  FALSE  always gives back a sent’s proof   
TRUE  FALSE  always guarantees that email’s text has not been counterfeited   
  
**~~GPRS connection~~**~~TRUE  FALSE  is faster than UMTS~~

~~TRUE  FALSE  can be used on a cellular telephone~~

~~TRUE  FALSE  arrives up to 7 Mbps~~

~~TRUE  FALSE  requires line of sight~~

~~TRUE  FALSE  is faster than ADSL~~

**~~Congestion~~**~~TRUE  FALSE  is a typical problem of ADSL~~

~~TRUE  FALSE  Wi-Max is used to overcome this problem~~

~~TRUE  FALSE  can be avoided using a secure connection~~

**Digital signature**

TRUE  FALSE  uses encryption

TRUE  FALSE  requires a scanning of the handwritten signature

TRUE  FALSE  guarantees author’s identity

TRUE  FALSE  uses private and public key

**A backdoor virus**TRUE  FALSE  checks what passes through your Internet connection

TRUE  FALSE  can be avoided using digital signature

TRUE  FALSE  let other users enter your computer opening a port

TRUE  FALSE  it is only effective against ADSL lines

**RAID 10**

TRUE  FALSE  is as fast as RAID 0

TRUE  FALSE  is as safe as RAID 0

TRUE  FALSE  does not need any other backup solution

TRUE  FALSE  uses 4 hard disks