

Information Systems and Data Management 27006 exam

NAME PAOLO SURNAME COLETTI NUMBER: _____
(write them **before** starting!)

You have only one paper. No questions are allowed, if you have doubts on the theoretical questions feel 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 another one that needs a summary query to be implemented.

Traffic tickets: this temporal database is used by a town to keep track of vehicle’s traffic tickets (Italian: contravvenzione stradale, multa; German: Strafzettel). The database must collect information on the vehicle, the driver, the place and time, the vehicle’s owner (for simplicity we suppose it is always one person), the officer who issued the ticket and obviously the type of violation, which determines the amount of money to be paid. The database must be able to answer to the question “How many parking violations did we have in Waltherplatz in 2014 for foreign drivers?”



Exercise Theoretical questions

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

Solid State Drives

- | | | |
|--|---|---|
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | are more expensive than standard hard disks |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | are usually faster than standard hard disks |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | do not have moving parts |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | are only external |

Freeware software

- | | | |
|--|---|---|
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | is usually produced by non-profit organizations |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | is always open source |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | asks for a small fee after some usage |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | an example of it is Skype communication program |

TURN PAGE →

GNU public licence

- | | | |
|--|---|---------------------------|
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | is a copyleft licence |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | is an open source licence |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | is a freeware licence |

CTRL key on an English keyboard

- | | | |
|--|---|---|
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | is used to “paste” in combination with other keys |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | is used to “copy” in combination with other keys |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | is used to “cut” in combination with other keys |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | is equivalent to Windows key |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | corresponds to AltGr key on a German keyboard |

Using Google Advanced search you can, if you want,

- | | | |
|--|--------------------------------|--|
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | search only for pages inside a specific domain |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | search for pages which do not contain a certain word |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | search for web pages only in a specific language |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | search only for PDF files |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | search only for Excel files |

Downloading using an UMTS-HSDPA connection (in perfect conditions) is faster than downloading using

- | | | |
|-------------------------------|---|-------------------------------|
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | Wi-Fi (in perfect conditions) |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | LTE (in perfect conditions) |

When you digitally sign a document

- | | | |
|--|---|--|
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | often a second password method is required |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | you need to have an agreement with a certification authority for your signature to be recognized by other people |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | you use a public key |

A smartcard, such as the Italian national health card,

- | | | |
|--|---|--|
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | can replace a password |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | needs an appropriate reader to be used |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | can be used together with a password |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | is used by public institutions to let you access your own data |

A virus on your computer can

- | | | |
|--|---|--|
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | send around emails from your computer |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | prevent programs on your computer from running |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | shutdown your computer |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | damage your computer's hardware |

RAID1

- | | | |
|--|---|--|
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | is safer than RAID0 |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | is faster than RAID0 |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | is so reliable that it can be used as the only backup system |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | needs 4 hard disks |
| TRUE <input checked="" type="checkbox"/> | FALSE <input type="checkbox"/> | protects against a hardware crash |
| TRUE <input type="checkbox"/> | FALSE <input checked="" type="checkbox"/> | speeds up data saving and reading |

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NAME

PAOLO

SURNAME

COLETTI

NUMBER:

50/47/01

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