Review questions

1. Name the different types of DDL instructions that may exist, distinguishing the type of object that can be created, deleted or modified.

- Database structure modifiers:
    - CREATE SCHEMA: Creates the DB structure.
    - CREATE TABLE: Creates the attributes tables.
    - CREATE VIEW: Creates a virtual data view for users.
    - ALTER: Modifies DB structure. ej: new table.
    - DROP: Deletes something in DB structure. ej: Column deletion.
- Database data modifiers:
    - INSERT: Insert new data values.
    - UPDATE: Modifies data values.
    - DELETE: Deletes data values

2. Give an example of a numeric, an alphanumeric and a date/time data type.

Numeric: INT, Alphanumeric: VARCHAR, date/time: DATA

3. Why is it essential for a database administrator (DBA) to know SQL commands as well as how to use SQL tools?

- Because SQL is a non procedural standard language to make modifications and queries in all relational databases.

4. Write, without looking at the syntax, a CREATE TABLE command to create a table of students with 5 fields of your choice.

CREATE TABLE Students

(IdNumber INT NOT NULL AUTO_INCREMENT,

Name VARCHAR(20) NOT NULL,

SurName VARCHAR(50),

Age INT,

BirthDate DATE,

PRIMARY KEY (IdNumber));

5. Write, without looking at the syntax, an ALTER TABLE command to add a field to the previous table.

ALTER TABLE Students

ADD Email VARCHAR(30);

6. What is the difference between VARCHAR and CHAR?

-VARCHAR have a variable length and CHAR needs a fixed size.

7. Discuss what the ON DELETE and ON UPDATE clauses of REFERENCES are for.

- Both define in the constraints definition how the keys will behave with respect to modification or deletion with the other relationships.

8. For the above clauses, there are four options SET NULL, SET DEFAULT, CASCADE and NO ACTION. Discuss what effect deletions and record modifications have on the related tables.

- SET NULL: Changes the relationship value to null.

- SET DEFAULT: Changes the relationship value to the default value defined in CONSTRAINT.

- CASCADE: Does the same as the other one. If this is deleted, the related ones are deleted and if it is modified, the related ones are modified

- NO ACTION: Default value that prevents modifications that violate referential integrity.