Facultad de Informática. Computer Science Engineering Bachelor's Degree.
Databases 2018-2019. Group I. SQL Exercises (II): DML query sentences.

Exercise 1. Download the *script* `05sql2ExBookstore.sql` from the Virtual Campus. It contains the table descriptions for the database of *All The Books* bookstore and some data insertion sentences. Write SQL query sentences for obtaining the information requested by the following questions and check that the results of their execution are correct:

1. List of books, the publication year of each of them and their authors, ordered by publication year.

2. List of books that were published after 01-01-2000.

3. List of clients that have bought at least one book.

4. List of clients that bought the book whose ISBN is 4554672899910.

5. List of clients whose name contains 'Jo' and the books that they have bought.

6. List of clients that have bought at least one book whose price is greater than 10 euro.

7. List of clients and dates in which they have placed orders that have not been sent yet.

8. List of clients that have NOT bought any book whose price is greater than 10 euro.

9. List of books whose sale price is greater than 30 euro or that were published before 2000.

10. List of clients that have placed more than one order in the same date.

11. List of books and amount of copies of each of them that have been sold.

12. List of clients and the total amount that they have spent in the bookstore.

13. Profits obtained from sales of books.

14. Total amount of each order (ordered by date) that have been placed after 01/12/2011 and have not been sent yet.

15. Orders whose total amount is greater than 100 euro.

16. Orders and the total amount of each of them that contains more than a book (title).

17. Orders and the total amount of each of them that contain more than 4 copies.

18. List of the most expensive books.

19. List of books that have not been sold or that have been sold but the profit per copy is less than 5 euro.

20. List of clients that have ordered more than one copy of a book sometime.

21. List of all clients with the order number, isbn and book titles bought by them. The clients that have not bought any book must also be included in the list (with no order information).

Exercise 2. Download the *script* `05sql2EjAirline.sql` from the Virtual Campus. It contains the table descriptions for the database of *Flying Wings* airline and some data insertion sentences. Write SQL query sentences for obtaining the information requested by the following questions and check that the results of their execution are correct.

   Note: Table `FWEmpl` contains information regarding pilots and other employees; pilots are the only employees which are certified for piloting a plane. Flight length is the maximum distance a plane can fly non-stop.

1. Display the Id and name of the pilots certified for piloting "Boeing" planes.

2. Display the planes that can fly from Los Angeles to Chicago non-stop.

3. Display the pilots certified to operate planes that (1) have a maximum flight length of more than 3000 miles, but (2) they are not certified for piloting any "Boeing" plane.

4. Display the employees earning the highest salary.

5. Display the employees earning the second highest salary.

6. Display the employees that hold the maximum number of certifications for piloting planes.

7. Display the employees certified for piloting 3 plane models.

8. Display the name of the planes for which all certified pilots earn more than 80000 euro.

9. For each pilot certified for operating more than 3 plane models, display the employee id and the maximum of the max flight lengths of the planes each pilot is certified for.

10. Display the name of the pilots whose salary is less than the cheapest flight from Los Angeles to Honolulu.

11. Display the name of the planes with more than 1000 miles of maximum flight length and the average salary of the pilots certified for each of those planes.

12. Compute the difference between the average salary of all employees and the average salary of pilots.

13. Display the name and salary of the employees who are not pilots but whose salary is larger than the average salary of the pilots.

14. Display the name of the pilots just certified for plane models with a maximum flight length of more than 1000 miles.