Tutorial: Simple and Algebraïc Queries

This tutorial uses the schema and data of the database created in Tutorial 1.

1. Simple Queries.
   (a) Print the different departments.
   (b) Print the different departments in which students are enrolled.
   (c) Let us check the integrity of the data. Print the emails of the students who borrowed or lent a copy of a book before they joined the university. There should not be any. Use a simple query.
   (d) For each copy that has been borrowed and returned, print the ISBN13 of the book and the duration of the loan. Order the results in ascending order of the ISBN13 and descending order of duration.
   (e) For each loan of a book published by Wiley that has not been returned, print the title of the book, the name and faculty of the owner and the name and faculty of the borrower.

2. Algebraïc Queries.
   (a) For each loan of a book published by Wiley that has not been returned, print the title of the book, the name and faculty of the owner and the name and faculty of the borrower. Use INNER JOIN.
   (b) Print the emails of the different students who borrowed or lent a copy of a book on the day that they joined the university. Use an algebraïc query.
   (c) Print the emails of the different students who borrowed and lent a copy of a book on the day that they joined the university. Use an algebraïc query.
   (d) Print the emails of the students who borrowed but did not lend a copy of a book on the day that they joined the university. Use an algebraïc query.
   (e) Print the ISBN13 of the books that have never been borrowed. Use an algebraïc query.

References

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[4] R. Ramakrishnan and J. Gehrke. *Database Management Systems*. McGraw-Hill, 2002.