First mid-term/Written exam 4/4/2014

First mid-term: deliver solutions to ex. 1, 2, 3 within 3 h

Written exam: deliver solutions to ex. 1, 2, 3, 4, 5 within 4 h

Notice: use your own SQL Server credentials (the lbi account is disabled)

Exercise 1 (8 pts). Consider the *foodmart* database. A sale in *sales_fact_1998* was done during a travel if the store of the sale was not in the city of residence of the customer. Write a Java program Traveller.java which outputs, for every customer, the customer full name, the total sales to the customer, and the ratio of sales done during travels. The Java program can submit only SQL queries of the form "SELECT * FROM table".

What to deliver: Traveller.java, myJDBCdef.props (with only the parameters needed for a test of the program).

Exercise 2 (6 pts). Develop a SSIS package that outputs on a CSV file the result of Ex. 1 ordered descending by the ratio of sales done during travels. The usage of GROUP BY / WHERE / ORDER BY clauses in SQL queries to perform computation at server side is not permitted. All the work must be done by the SSIS package.

What to deliver: SSDT solution.

Exercise 3 (2 pts). Write a single SQL query that solves the problem of Ex. 2 in a way as close as possible to the SSIS package you developed.

What to deliver: text file with SQL query and a brief comment about.

Exercise 4 (8 pts). Write a MDX query to output, for every customer of "Los Angeles", the customer full name, the total sales to the customer, and the ratio of sales done during travels.

What to deliver: MDX query and a brief comment about it, a PowerPoint file with the screenshot of the MDX query result.

Exercise 5 (8 pts). Using Weka, build a classifier that describes/predicts which customers have done at least once a sale during a travel.

What to deliver: a PowerPoint file with the answer to the question and with screenshots of Weka.

How to deliver: send an e-mail with a single <your surname>.zip file attached to ruggieri@di.unipi.it, including your name, surname, student ID, and computer IP address (http://www.whatismyip.com).

Results and oral exam. Results will be published on-line by monday. Oral exam dates (for the "Appello straordinario") start on Tuesday 8th April 2014.