This last assignment is based on the MS SQL-Server. The homework is optional. Its total value is up to 5% above your final grade.

If you decide to work on it, you may need to download and install the 2005 SQL-Server Express Edition and the SQL-Server Management Studio Express Tool (two separate downloads). Both are available at no cost from the site: http://www.microsoft.com/Sqlserver/2005/en/us/express.aspx

Requirements

1. Once the system is installed you need to create and populate our example COMPANY database (taken from Elmasri & Navathe).

2. Insert yourself in the EMPLOYEE table. Add your family members, and your work assignments.

3. Set yourself as manager of the new Cleveland located “IT Department” (Dept number is 77).

4. Create a new project called “Automation”. Make the new project be controlled by “IT Dept.”

5. Hire two new employees and assign them to your new department and project.

6. Print each Table (EMPLOYEE, DEPARTMENT, WORKS_ON, PROJECT, DEPENDENT)

7. Write and test a function called ProjectCostRate whose purpose is to calculate the relative ratio cost per hours for a given project X.

   Cost of project X is defined as the sum of all its annual salary-allocations. The salary allocation for employee e1 who works 20 of her 40 hours in project X is half of her salary. Clearly if an employee doesn’t work in a project her salary-allocation on that project is zero. Once the sum of all salary-allocations of project X has been calculated, you need to divide it by the total number of hours that all employees work on it. Your function must include a cursor. Test your function computing the ProjectCostRate of each department.

8. Write a trigger to enforce the following rule:

   From now on, no employee should make more money than his/her manager. Test the trigger. Hire an employee for your new department; offer him a salary higher than yours.

Nicely print and document each part of this assignment.