Level 3 Develop software using SQL (Structured Query Language) (7266/7267-310)

www.cityandguilds.com/e-quals07
November 2008
Version 2.0

e-Quals
Assignment guide for Candidates
Assignment D

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Level 3 Develop software using SQL (Structured Query Language) (7266/7267-310) Assignment D

Introduction – Information for Candidates

About this document

This assignment comprises all of the assessment for Level 3 Develop software using SQL (Structured Query Language) (7266/7267-310).

Health and safety

You are asked to consider the importance of safe working practices at all times.

You are responsible for maintaining the safety of others as well as your own. Anyone behaving in an unsafe fashion will be stopped and a suitable warning given. You will **not** be allowed to continue with an assignment if you compromise any of the Health and Safety requirements. This may seem rather strict but, apart from the potentially unpleasant consequences, you must acquire the habits required for the workplace.

Time allowance

The recommended time allowance for this assignment is **4 hours**.

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Candidate instructions

Candidates are advised to read **all instructions** carefully before starting work and to check with your assessor, if necessary, to ensure that you have fully understood what is required.

Time allowance: 4 hours

Assignment set up: A scenario is provided in the form of requests for services required.

This assignment is made up of **three** tasks

- **Task A** - requires candidates to create and test scripts to fulfil the requirements specified.

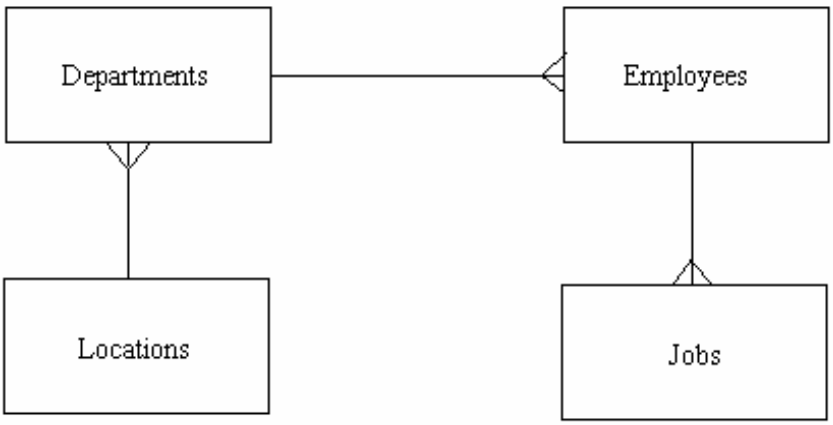
Scenario

A company, SimTech Computing, have their Head Office in America and operate other branches in several locations. You work as an IT Database Assistant accessing the company database, fulfilling requests for information and services from other departments or branches. Your job involves writing and testing SQL scripts to provide the information and services required.

The following requests have been received today, via e-mail and fax, from Finance, Human Resources and the Database Administrator.

	Finance Requirements
Request 1	List the last name, first name and employee number of all employees that have a last name starting with S.
Request 2	List the last name, first name and employee number of all stock clerks who were hired on or before 26 Aug 1998 sorted in ascending order of last name.
Request 3	List the department number, last name and salary of all employees who were hired between 15/11/98 and 07/12/99 sorted in ascending order of last name within department number.
Request 4	List the last name, job and commission percentage of employees where the commission percentage is less than or equal 15% sorted in descending order of commission percentage.
Request 5	Which jobs are found in the Administration and Human Resources departments?
Request 6	List the last name of all employees in the Marketing and Sales departments together with their monthly salaries (rounded to 2 decimal places), sorted in ascending order of last name.
Request 7	Show the average salaries figure for one month displayed with no decimal places.

	Human Resources Requirements
Request 8	Show the total number of employees in the Finance department.
Request 9	List the last name, first name, hire date and salary of all employees in the UK sorted in ascending order of last name.
Request 10	List the department number, and the highest salary of the department with the highest average salary.
Request 11	List the department number and name for all departments where no marketing representatives work.
Request 12	Add the following new job SA_CLERK, Sales Clerk, 9000, 12000
Request 13	Update all the maximum salaries for jobs with an increase of 2000.
Request 14	List all the data for jobs sorted in ascending order of maximum salary.
Request 15	Produce a list of employees showing percentage raises, employee numbers and old and new salaries. Employees in departments 80 and 90 are given a 6% rise, employees in departments 20 and 190 are given a 12% rise and employees in other departments are not given a rise.

	Database Administrator Requirements
Request 16	The database administrator has found the following entity-relationship diagram. He thinks that the diagram is incorrect. Check the diagram and draw a corrected diagram. 
Request 17	Create a new view for manager's details only using all the fields from the employee table. Show all the fields and all the managers using the view for managers.
Request 18	a) Drop the manager's view. b) Recreate the manager's view so that the salary field is no longer included. c) Use the ALTER statement to compile the manager's view.
Request 19	Show all the fields and all the managers using the view for managers.
Request 20	Print a copy of the data dictionary entry for the table employees

Task A

In this task you are required to plan testing and write and test scripts to fulfil the requirements specified by the Accounting Department, Personnel Department and the IT Manager.

1 Prepare a test plan to carry out the testing of the SQL scripts.

2 Prepare the test scripts to be used with the test plan.

3 Use the test plan and test scripts to carry out the tests and record results of testing in a test log comparing the expected results to the actual results. The test scripts must be saved with an appropriate name eg Request1.

4 Provide evidence of testing i.e. printout of script file and output which must be cross-referenced to the correct test number.

Note

- Candidates should produce the following for their assessor:
  - Test plan.
  - Test data (scripts).
  - Test log.
  - Cross-referenced evidence of testing i.e. printout of script file and test output as necessary to show test results.
- At the conclusion of this assignment, hand all paperwork to the test supervisor.
- Ensure that your name is on all documentation.
- If the assignment is taken over more than one period, all paperwork must be returned to the test supervisor at the end of each sitting.

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