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

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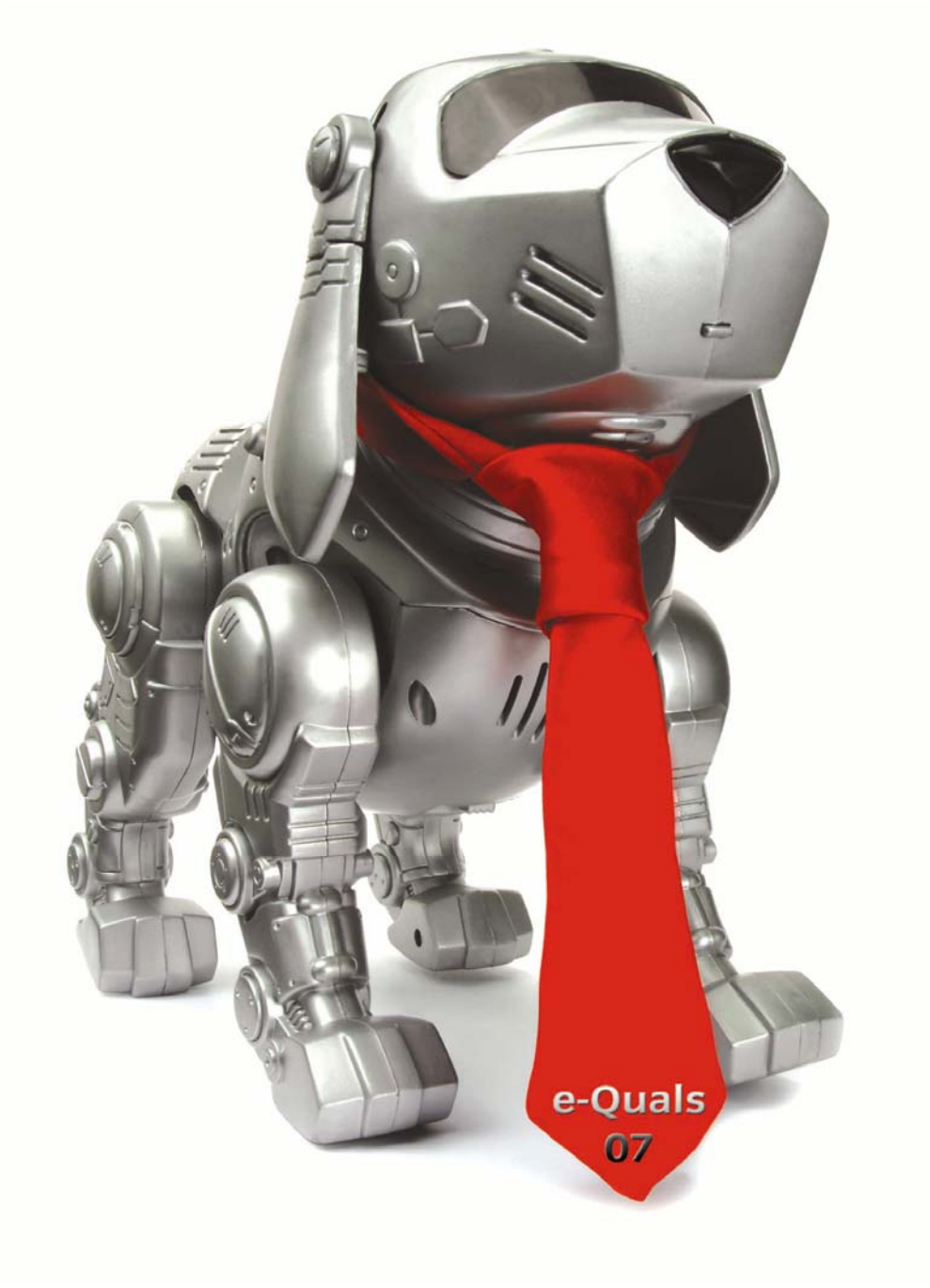
Assignment guide for Candidates
Assignment B



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City & Guilds
1 Giltspur Street
London EC1A 9DD
T +44 (0)20 7294 2800
F +44 (0)20 7294 2400
www.cityandguilds.com
learnersupport@cityandguilds.com

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

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 **one** task

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

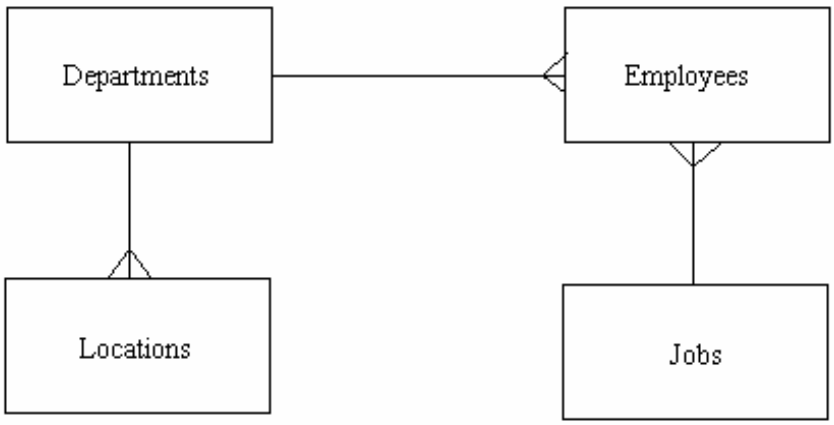
Scenario

A company, Delta Books who supply educational books, have their Head Office in America and operate other branches in several locations. You work as an IT 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 fax and e-mail, 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 M.
Request 2	List the department number, last name, first name and phone number of all sales representatives who were hired on or after 24 Mar 1998 sorted in ascending order of last name.
Request 3	List all the data for all jobs where the minimum salary is less than or equal to 4500 sorted in descending order of the minimum salary.
Request 4	Which jobs are found in the Marketing and Accounting departments?
Request 5	List the department name, location, last name and salary of employees who work in location 1700 sorted in ascending order of department name.
Request 6	List the last name and first name for all employees who were hired in the months of June or August (for all years) sorted in ascending order of last name.
Request 7	Show the average salary for employees for one year (rounded to 2 decimal places).
Request 8	Show the total monthly salaries figure (0 decimal places) for all employees in departments 80 and 60.

	Human Resources Requirements
Request 9	List the department number, department name and the number of employees for each department that has less than 4 employees grouping by department number and department name.
Request 10	List the department number, department name and the number of employees for the department that has the lowest number of employees using appropriate grouping.
Request 11	List the department number and name for all departments where no sales representatives work.
Request 12	Add the following new job IT_ASST, IT Assistant, 5000, 8000
Request 13	Update all the minimum salaries for jobs with an increase of 500.
Request 14	List all the data for jobs sorted in ascending order of job id.

	Database Administrator Requirements
Request 15	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 16	Print a copy of the data dictionary entry for the table departments.
Request 17	Drop the table for job history.
Request 18	Create a new table called SAL_HISTORY to include the fields EMPID, FIRSTNAME, LASTNAME, HIREDATE and SAL with the same data types as the employees table. The EMPID must not be NULL.
Request 19	Insert data from the employees table where the employee number is less than or equal to 130 into the SAL_HISTORY table.
Request 20	Display all the records and all the fields in the SAL_HISTORY table.

Task A

In this task you are required to plan testing and write and test scripts to fulfil the requirements specified by Finance, Human Resources and the Database Administrator.

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.

Published by City & Guilds
1 Giltspur Street
London
EC1A 9DD
T +44 (0)20 7294 2468
F +44 (0)20 7294 2400
www.cityandguilds.com

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