

# Database Essentials v3



## Certification Exam: ICT Database Essentials Certificate Test

### Exam Objectives

The ICT Database Essentials courseware is written to the following Exam Objectives:

#### **Domain 9.1: Describe the purpose and uses of relational databases, including databases vs. spreadsheets, advantages of databases, real-world uses, and "Big Data."**

- 9.1.1: Describe the functions of a relational database.
- 9.1.2: Distinguish between databases and spreadsheets.
- 9.1.3: Identify the advantages of using a database instead of alternatives (e.g., spreadsheets, electronic documents, paper).
- 9.1.4: Describe real-world uses for databases, including search engines, schools, hospitals, and retail.
- 9.1.5: Define "Big Data" and describe how it is used in advertising.
- 9.1.6: Define structured, unstructured, and semi-structured data.

#### **Domain 9.2: Identify database components and functions, including fields vs. records, basic data types, table vs. query, primary and foreign keys, table relationships, reports, Structured Query Language (SQL), and popular database applications.**

- 9.2.1: Identify the components of a database.
- 9.2.2: Distinguish between fields and records in a database.
- 9.2.3: Describe the basic data types and formats used in a database.
- 9.2.4: Distinguish between a table and a query.
- 9.2.5: Identify database keys, including primary and foreign.
- 9.2.6: Identify the relationships between tables in a database (i.e., one-to-one, one-to-many, many-to-many).
- 9.2.7: Distinguish between a query and a report.
- 9.2.8: Identify various report types.
- 9.2.9: Describe Structured Query Language (SQL) and discuss its use with databases.
- 9.2.10: Identify and compare various database applications, including Microsoft Access, MySQL, Oracle.

#### **Domain 9.3: Create a database table and organize data in it, including multiple data types in a table, adding records, deleting records, editing records and sorting records.**

- 9.3.1: Create a data table that uses multiple data types.
- 9.3.2: Add (insert) records into a database table.
- 9.3.3: Edit (update) records in a database table.
- 9.3.4: Sort records in a database query or table.
- 9.3.5: Delete records from a database table.

#### **Domain 9.4: Manipulate and share data in a database, including troubleshooting errors, select queries, action queries, table joins, importing and exporting spreadsheet data, and creating reports.**

- 9.4.1: Troubleshoot common database errors, including data type errors, query syntax errors.
- 9.4.2: Create a basic select query in one table.
- 9.4.3: Create an action query to manipulate data.
- 9.4.4: Create a query using primary and foreign keys.
- 9.4.5: Create a simple join table.
- 9.4.6: Export data from a database into a spreadsheet.
- 9.4.7: Import data from a spreadsheet into a database.
- 9.4.8: Create relevant reports from a database.