

# ICT Database Essentials Learning Objectives

## ICT Domain 9: Database Essentials

### Learning Objectives

#### Sub-Domain 9.1

##### Describe the purpose and uses of relational databases.

9.1.1

Describe the functions of a relational database.

9.1.2

Distinguish between databases and spreadsheets.

9.1.3

Identify 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, retail.

9.1.5

Define "Big Data" and describe how it is used in advertising.

#### Sub-Domain 9.2

##### Identify database components and functions.

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.

## ICT Domain 9: Database Essentials

### Learning Objectives

#### Sub-Domain 9.3

##### Create a database table and organize data in it.

9.3.1

Create a database 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.

#### Sub-Domain 9.4

##### Manipulate and share data in a database.

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 table join

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.