

## Sample assessment task

# Unit 2, Outcome 3

## Database

### Outcome

On completion of this unit the student should be able to apply the problem-solving methodology to create a solution using database management software, and explain the personal benefits and risks of interacting with a database.

### Task

Unit 2, Outcome 3 is designed to introduce students to the use of database software. Database software is covered in Unit 3, Outcome 1 of the Units 3 & 4 Informatics course and this unit provides a good opportunity for students to develop skills directly related to their Unit 3 & 4 studies.

Sources of data and methods used to collect the data from sources are covered in the unit. Capabilities and limitations of database use are addressed, along with the digital system components required when using a database.

Security threats associated with the use of databases are identified, along with the precautions that can be taken to minimise these threats.

In terms of database software, students are required to understand the purpose of forms, tables, queries and reports. They must be able to identify that a table consists of fields and records and ways that data can be validated when input into the database.

The wide-ranging use of database management solutions needs to be explored, as do the risks and benefits for individuals using database management solutions.

For this Outcome, students have the choice of identifying a need or opportunity that is relevant to them. Students should be encouraged to select different needs or opportunities to other students in the class.

Databases developed can consist of one single table (flat file database). However, if a teacher and student wish they may extend the task to include databases with multiple tables linked using relationships (relational database).

Students should be given multiple periods to complete all elements of the task.

## Requirements

1	Identify and describe a need or opportunity for a database management solution.	2 marks
2	Using an appropriate design tool, identify, <b>for each table</b> , the fields that will make up the table. For each field listed, identify the data type of the field and describe the field.	4 marks
3	Using an appropriate design tool, create a design showing how the data-entry form that will be used to acquire the data will appear.	4 marks
4	List the sources from where you will collect your data.	2 marks
5	Create, using database software, the table (or tables) identified in Question 2.	5 marks
6	Create, using database software, the data-entry form (or forms) identified in Question 3.	3 marks
7	Discuss two formats and conventions followed when creating the data-entry form.	2 marks
8	Identify and describe two validation techniques that can be used to check if the data input is reasonable.	2 marks
9	Input data into the table using the data-entry form.	2 marks
10	Create two queries that help located particular data stored within the table.	4 marks
11	Create two reports based on each query identified if Question 10.	4 marks
12	Discuss two formats and conventions followed when creating the reports from Question 11. These need to differ from the formats and conventions discussed in Question 7.	2 marks
13	Discuss two advantages, for individuals, of using a database management solution.	2 marks
14	Discuss two disadvantages, for individuals, of using a database management solution.	2 marks
<b>Total</b>		<b>40 marks</b>

### Assessment rubric

Question	Marks	0	1	2	3	4	5		
<b>1</b> Need or opportunity	2	No need or opportunity identified	Need or opportunity partly identified	Need or opportunity fully identified					
<b>2</b> Table design tool	4	No table design	Some fields and data types identified	Most fields and data types identified				All fields and data types identified	All fields and data types identified and complete descriptions given
<b>3</b> Form design tool	4	No form design	Form partly represented	Form mostly represented				Form design complete	Form design complete and annotated showing formats and conventions used
<b>4</b> Sources of data	2	No sources identified	Some sources identified	All sources identified					
<b>5</b> Create table	5	No table developed	Table developed but contains no fields	Some fields and data types developed	Most of the fields and data types developed	Almost all of the fields and data types developed	All of the fields and data types developed		
<b>6</b> Create data entry form	3	No data entry form developed	Some elements of the form developed	Most elements of the form developed	Data entry form fully developed				
<b>7</b> Formats and conventions of forms	2	No formats or conventions discussed	One format or convention discussed	Two formats or conventions discussed					
<b>8</b> Validation techniques	2	No validation techniques discussed	One validation technique discussed	Two validation techniques discussed					
<b>9</b> Input data	2	No data input into the table	Some data entered	The amount of data entered is suitable to fully					
<b>10</b> Create queries	4	No queries developed	One query partially developed	One query completely developed	One query completed and a 2nd query partially completed	Two queries fully completed			

Question	Marks	0	1	2	3	4	5
<b>11</b> Create reports	4	No reports developed	One report partially developed	One report completely developed	One report completed and a 2nd report partially completed	Two reports fully completed	
<b>12</b> Formats and conventions of reports	2	No formats or conventions discussed	One format or convention discussed	Two formats or conventions discussed			
<b>13</b> Advantages of using database management solutions	2	No advantages discussed	One advantage discussed	Two advantages discussed			
<b>14</b> Disadvantages of using database management solutions	2	No disadvantages discussed	One disadvantage discussed	Two disadvantages discussed			
Total	40						