



## 10 Computing Technology

# Task 5: Analysing Data Project

**Due Date:** 31 Oct 2025 Term 4 Week 4

**Distributed:** 12 Sept 2025

**Weighting:** 35%

**Task Type:** Practical Group Task

**Unit:** Analysing Data

**Syllabus Outcome/s:** CT5-DPM-01, CT5-DAT-01, CT5-COM-01, CT5-THI-01, CT5-DAT-02.

### Task Description

We live in an age where information plays an important role in our daily and business lives. Datasets are easily accessible to help us develop and inform our decision-making processes.

In pairs, you are required to analyse a dataset using Microsoft Excel and produce a wide range of relevant graphs to help explain the complex dataset to potential users.

Examples of datasets to consider include:

- big foot
- UFOs
- Netball
- English Premier League (EPL)
- NRL or
- one of your choosing upon teacher approval

Note: the above datasets will be provided to you to access and use via Moodle.

#### Part A - Data Report

Once you have decided on the data set, create spreadsheet using Microsoft Excel and analyse the information using a variety of data analysis tools including:

- creating charts (bar chart, column chart, line chart, scatter chart, pie chart),
- filtering data using pivot tables,
- using a 'What-if' analysis to explore various results and
- applying conditional formatting

#### Part B: Evaluation

A written report evaluating your project. This should address the following three areas:

- evaluating how well the project meets both functional and non-functional requirements
- evaluating how well the solution meets social, ethical and legal responsibilities and cybersecurity principles and
- evaluating the tools and processes used in the analysis of the data for validation

## Glossary of Key Words

These verbs will provide an understanding of the detail needed to successfully complete this task:

- **Explain:** Relate cause and effect; make the relationships between things evident; provide why and/or how
- **Describe:** Provide characteristics and features
- **Evaluate:** Make a judgement based on criteria
- **Outline:** Sketch in general terms; indicate the main features of

### Details of Submission

#### Part A: Data Report

The final Microsoft Excel file addressing the above requirements needs to be submitted on Moodle by the due date.

#### Part B: Evaluation

The evaluation addressing the questions identified above needs to be submitted on Moodle by the due date as a .PDF

## Teacher Feedback and Student Self-Reflection

The task will be returned to students within **14 days** of the due date. Information on how to improve will be provided through written teacher feedback and the marking criteria. Students can clarify or seek further feedback by speaking with their teacher.

Upon return of the task and teacher feedback, students will also be expected to complete the following self-reflection form, to provide them with the opportunity to reflect on the strength of their performance, as well as areas that have been identified to strengthen in future tasks - <https://forms.gle/Ck4y1jid49x7sKfq7>

#### Syllabus Outcome/s:

- applies iterative processes to define problems and plan, design, develop and evaluate computing solutions **CT5-DPM-01**
- explains how data is stored, transmitted and secured in digital systems and how information is communicated in a range of contexts **CT5-DAT-01**
- communicates ideas, processes and solutions using appropriate media **CT5-COM-01**
- applies computational, design and systems thinking to the development of computing solutions **CT5-THI-01**
- acquires, represents, analyses and visualises simple and structured data **CT5-DAT-02.**

## How does this link to my learning?

This task will allow students to:

- Demonstrates knowledge and skills in using a database program (Microsoft Access) to manage and manipulate data
- Ability to visualise and report on data via a variety of methods including tables, graphs and formalised reports

## Assessment Procedures

Students should be fully aware of the School Assessment Procedures for their year group. These were provided at the beginning of the school year and are available off the school website under the Learning menu for each year group.

## Marking Rubric

CRITERIA	1 - 2	3 - 4	5 - 6	7 - 8	9 - 10
<b>Microsoft Excel (Charts)</b>	Student attempts to create one of the required charts or no understanding of charts	Student provides one or two charts that are somewhat unclear. Chart type created is somewhat appropriate with no labels and with minimal interpretation or insight.	Student provides at least three charts that are somewhat clear and are of the appropriate type. Charts are mostly labelled with some interpretation and insight provided. Charts created on the same sheet as the data.	Student creates a range of charts that are clear and easy to interpret. Appropriate and effective chart types used. Charts are well labelled providing a clear level of interpretation and insight. Charts created on separate sheet(s).	Student provides a wide range of charts that are clearly labelled, highly appropriate and provide excellent level of interpretation and insight. Charts created on separate sheets and linked to data.
CRITERIA	1	2	3	4	5
<b>Microsoft Excel (Pivot Table)</b>	Student attempts to create a pivot table or no understanding of pivot tables	Student provides a pivot table with errors and/or is somewhat unclear. Minimal interpretation or insight provided. Data is somewhat organised.	Student provides data that is mostly organised with some inconsistencies, mostly accurate with some errors, shows some complexity, somewhat clear and readable, some interpretation and insight provided.	Student provides data that is well organised with minor issues, shows a good level of complexity and provides a clear level of interpretation and insight.	Students provides a highly relevant pivot table which shows a high level of complexity, contains no errors and provides an excellent level of interpretation and insight.
<b>Microsoft Excel (Conditional Formatting)</b>	Student attempts to apply conditional formatting or no understanding of conditional formatting.	Student applies basic conditional formatting or applied but does not aide in the data analysis process.	Conditional formatting highly relevant accurately applied to enhance data analysis.		

<p><b>Microsoft Excel (What-if Analysis)</b></p>	<p>Student attempts to implement a what-if analysis or no understanding of what-if analysis.</p>	<p>Student provides a basic what-if analysis that provides little insight or little interpretation of the dataset. Formula applied with errors or applied to an irrelevant scenario given the dataset.</p>	<p>Student provides a somewhat relevant what-if analysis that provides some insight and some interpretation of the dataset. Formula applied with some error and/or applied to a somewhat relevant scenario given the dataset.</p>	<p>Student provides a relevant what-if analysis that provides insights and allows for interpretation of the dataset. Formula correctly applied to a relevant scenario given the dataset.</p>	<p>Student provides a highly relevant what-if analysis that provides valuable insights and excellent interpretation of the dataset. Formula correctly applied with a highly relevant scenario given the dataset.</p>
<p><b>Spreadsheet (formatting and cell reference)</b></p>	<p>The student creates a spreadsheet with few features; lacks data manipulation skills. Copies data into Excel.</p>	<p>Student applies basic formatting to parts of the spreadsheet. Student attempts to use fill down or across functions to limited parts of the spreadsheet. Copies data into Excel. Attempts to manipulate a few rows and columns and applies limited formatting. .</p>	<p>Student applies some formatting to the spreadsheet. Student attempts to use relative and/or absolute cell referencing Student attempts to use fill down and across functions to some parts of the spreadsheet. Imports data into Excel. Attempts to manipulate some rows and columns and applies some formatting.</p>	<p>Student uses appropriate formatting applied to colour, headings, text size, layout High level of skill shown in the use of relative and absolute cell referencing Uses fill down and across functions to most parts of the spreadsheet. Successfully imports csv dataset into Excel. Manipulates most rows and columns and applies formatting options.</p>	<p>Highly effective use of appropriate formatting applied to colour, headings, text size, layout Advanced skills is the use of relative and absolute cell referencing. Effectively uses fill down and across functions Successfully imports csv dataset into Excel. Manipulates rows and columns and applies effective formatting options.</p>

**Part A TOTAL /28**

**PART B - Evaluation**

CRITERIA	1 - 4	5 - 8	9 - 12	13 - 16	17 - 20
<p align="center"><b>Evaluation</b></p>	<p>The student selects an inappropriate dataset; lacks justification and does not meet project requirements. The student demonstrates limited knowledge and understanding of computing technology concepts and/or solutions. The student demonstrates a limited ability to collect complex data. An analysis is not evident. The student communicates with a limited range of terms. Minimal research and planning occur with unclear or missing explanations.</p>	<p>The student communicates using basic terms and or conventions. Inadequate research and planning occur. Identifies how the project requirements were addressed for either the functional or non-functional requirements. The student selects a dataset with limited relevance. The student demonstrates basic knowledge and understanding of how the solution meets social, ethical and/or legal responsibilities and/or cybersecurity principles and the tools and/or processes used in the analysis of the data for validation. The student demonstrates a basic ability to collect, analyse and/or use complex data.</p>	<p>The student communicates using relevant terms, conventions and methods. The student provides outlines how the project requirements were addressed for either the functional and/or non-functional requirements. The student demonstrates a sound ability to collect, analyse and use complex data effectively. The student selects a suitable dataset. The student demonstrates sound knowledge and understanding of how the solution meets social, ethical and legal responsibilities and cybersecurity principles and the tools and/or processes used in the analysis of the data for validation.</p>	<p>The student communicates logically using appropriate terms, conventions and methods. The student describes how the project requirements were addressed for both functional and non-functional requirements. The student demonstrates the ability to collect, analyse and use complex data effectively. The student selects relevant dataset. The student demonstrates a thorough knowledge and understanding of how the solution meets social, ethical and legal responsibilities and cybersecurity principles and the tools and processes used in the analysis of the data for validation.</p>	<p>The student communicates logically and effectively using a range of terms, conventions and methods. The student thoroughly evaluates and provides strong justification and meets all project requirements exploring how well the project meets both functional and non-functional requirements. The student demonstrates the ability to collect, analyse and use complex data logically and effectively. The student selects highly-relevant datasets; The student demonstrates an extensive knowledge and understanding of how the solution meets social, ethical and legal responsibilities and cybersecurity principles and the tools and processes used in the analysis of the data for validation.</p>

**Part B TOTAL / 20**

**OVERALL TOTAL / 48**

## Literacy Criteria

Literacy Outcomes	Elementary achievement You have:	Limited achievement You have:	Satisfactory achievement You have:	High achievement You have:	Outstanding achievement You have:
	0	1	2	3	4
<b>Vocabulary</b> <i>Uses technical vocabulary to explain concepts and/or range of precise and appropriate words for effect</i>	Very limited response. Few content words used.	Only simple words are used.	Some precise and technical words are used.	Sustained use of precise and technical words.	Sustained, consistent and fluent use of precise and technical words.
<b>Punctuation</b> <i>Use of correct and appropriate sentence and other punctuation for effect, and to aid in reading of the text</i>	No evidence of correct sentence punctuation.	Sentence punctuation is correctly used in at least one place - <i>one sentence is punctuated correctly.</i>	Some correct sentence level punctuation (at least 50%). May attempt other punctuation where it is required.	Mostly correct sentence level punctuation (80%) and at least two correct examples of other punctuation.	Writing contains accurate use of all applicable punctuation.
<b>Sentences &amp; Cohesion</b> <i>The intentional construction of a variety of sentences to match purpose and audience, and the control of multiple sentence threads across the whole text.</i>	No clear evidence of sentences: a list of words OR text fragments.	At least one sentence is used correctly. Some meaning can be construed from the text.	Some correct formation of sentences. Mainly uses simple and compound sentences, but may attempt more complex structures.	Most sentences are correct. Range of sentence types and connectives are evident, but with varied effectiveness.	All sentences are correct, effective and controlled, and include a range of sentence types and connectives (complex sentences and other sophisticated structures)
<b>Paragraphs</b> <i>Paragraphs are used to effectively structure information and partition events and ideas</i>	No correct use of paragraphing; may be a block of text or random breaks.	Ideas are separated; paragraphs may contain some unrelated ideas.	At least ONE paragraph is well structured and develops an idea	Writing is organised into paragraphs that assist the reader to digest chunks of the text, but may not be linked or executed effectively.	All components of the paragraphs are evident and paragraphing is consistent and well-developed across the whole text.
<b>Text Structure</b> <i>Uses features of the appropriate text type</i>	No evidence of the structural features of the appropriate text type. <i>No attempt to write in the appropriate text type and/or response is off task.</i>	Minimal evidence of the structural features - <i>1 component evident</i> - of the appropriate text type.	Some evidence of the structural features - <i>2 components evident</i> - of the appropriate text type.	Substantial evidence of the structural features - <i>all components evident but there may be some lapses</i> - of the appropriate text type.	Coherent and controlled use of <b>all</b> the appropriate structural features of the text type.
	Level of response is well below syllabus expectation	Level of response is below syllabus expectation	Level of response is equivalent to syllabus expectation	Level of response is above syllabus expectation	Level of response is well above syllabus expectation

Total: /52