

ENGF0002 Scenario 1

Introduction

As part of your computer science curriculum, you have learned various concepts from logic and maths necessary to understand computers and computation. Your task for these scenarios is to create an interactive exercise for practising/learning these concepts. In this scenario, you will work in groups of 4 people to produce a **technical document** that outlines the teaching tool you propose to make. (In Scenario 2 you will produce a prototype of the teaching tool you propose in this scenario.)

Some examples of topics your tool might help with practising:

- Set theory
- Relations and functions
- Linear algebra and matrices
- Truth tables and Karnaugh maps
- Propositional logic

Scenario deliverables

There will be a single deliverable in this scenario: a 5-8 page technical report / design document describing what the proposed tool is and the components that would be needed in order to implement it. Everyone in your group is jointly responsible for producing this document.

Report structure

Consider including the following content in your report:

- An **introduction** that motivates and describes the tool you're proposing.
- A **list of components**, data storage, data structures, algorithms, etc. needed to implement your tool.
- **Examples of exercises** that could be practised using your tool, specifying a system (an editor, a text file format, etc.) that allows someone else to create new puzzles/problems/exercises of the same type.
- Appropriate **diagrams** as needed to illustrate important concepts for your proposal.
- A framework/language that you propose to implement this tool in.

Marking

The mark for the first scenario is worth 20% of the ENGF0002 mark, or half of the 40% allocated to the Scenarios. The mark will be entirely determined by the report you submit, and all members of a group receive the same mark. The main criteria for marking are (1) the appropriateness of the proposed plan and solution, and (2) the quality and clarity of writing.

1st Distinction Exceptional / Outstanding 80-100%	<ul style="list-style-type: none"> • Exceptional response with a convincing, sophisticated argument with precise conclusions. • Exceptional solution and advanced algorithm/technical design. • Report writing and illustrations indicate excellent attention to clarity and conveying of information.
1st Distinction Excellent 70-79%	<ul style="list-style-type: none"> • A distinctive response that develops a clear argument and sensible conclusions, with evidence of nuance. • Excellent algorithmic solution, novel and creative approach. • Report writing and organization show fluency with ideas and excellent communication skills.
2:1 Merit Good 60-69%	<ul style="list-style-type: none"> • A sound response with a reasonable argument and straightforward, logical conclusions. • Good solution, skilled use of concepts, mostly correct and only minor faults. • Style, word choice, and figures work well to convey most important ideas. Well documented.
2:2 Pass Satisfactory 50-59%	<ul style="list-style-type: none"> • A reasonable response with a limited sense of argument and partial conclusions. • Reasonable solution, using basic required concepts, several flaws in implementation. • Style and word choice sometimes detract from conveying of ideas.
3rd Weak 40-49%	<ul style="list-style-type: none"> • An indirect response to the task set, towards a relevant argument and conclusions. • Rudimentary algorithmic/technical solution, but mostly incomplete. • Style and word choice seriously detract from conveying of ideas.
Fail < 40%	<ul style="list-style-type: none"> • Either no argument or argument presented is inappropriate and irrelevant. Conclusions absent or irrelevant. • No solution to the given problem, completely incorrect code or proposal for the given task. • Style and word choice seriously interfere with comprehension.