



| Sample assessment task | |
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| Year level | 10 |
| Learning area | Technologies |
| Subject | Digital Technologies |
| Title of task | Topic Test |
| Task details | |
| Description of task | Students will complete a written test, assessing their prior knowledge of Digital Technologies. |
| Type of assessment | Summative |
| Assessment strategy | Test |
| Purpose of assessment | The purpose of this assessment is for teachers to assess specific content that has been covered over the course of the semester |
| Evidence to be collected | Written response |
| Suggested time | 1 hour lesson |
| Content description | |
| Content from the Western Australian Curriculum | <p><i>Knowledge and understanding</i></p> <p>Digital systems Role of hardware and software in managing, controlling and securing access to data, in networked digital systems</p> <p>Representation of data Simple compression of data and how content data is separated from presentation data</p> <p><i>Processes and production skills</i></p> <p>Collecting, managing and analysing data Analyse, visualise and model processes and entities, and their relationships, using structured data</p> <p>Digital implementation Design algorithms represented diagrammatically and in structured English, including iteration</p> <p>Digital implementation Create interactive solutions for sharing ideas and information online, taking into account social contexts and legal responsibilities</p> |
| Task preparation | |
| Prior learning | Students are familiar with the range of content covered in the test. This assessment is towards the end of the semester to conclude general Digital Technologies knowledge. |
| Assessment differentiation | Teachers should differentiate their teaching and assessment to meet the specific learning needs of their students, based on their level of readiness to learn and their need to be challenged. Where appropriate, teachers may either scaffold or extend the scope of the assessment tasks. |

Assessment task

| | |
|------------------------------|--|
| Assessment conditions | To be completed individually under test conditions |
| Resources | <ul style="list-style-type: none">• Test paper• Pencil/pens |

Instructions for the teacher

The purpose of this assessment is for teachers to assess specific content that has been covered over the course of the semester

Lesson one

Test conditions; quiet and individually completed.

Instructions for students;

Test is to be completed in silence and is for the purpose to clearly identify student's prior knowledge of the semesters work.

Hand out test.

To be collected at the end of the class session.

Name: _____

Instructions to students: You are to complete all questions in the spaces provided, and will have 50 minutes to complete the task.

Part A (4 marks)

For each of the following, select the most appropriate response

- 1 An algorithm is:
 - a) a description of the steps required, including decisions, to solve a problem.
 - b) how information is encoded.
 - c) the process of reducing the file size of electronic data.
 - d) a process that is repeated over and over again.

- 2 The raw material that is processed by a computer system is commonly referred to as
 - a) software.
 - b) algorithm.
 - c) objects.
 - d) data.

- 3 The process of separating a complex problem into parts so that it can be more easily understood is commonly referred to as:
 - a) composing.
 - b) decomposing.
 - c) compressing.
 - d) decompressing.

- 4 Iteration is:
 - a) a new idea or process.
 - b) a system that manages power to accomplish a task.
 - c) the repetition of a process or set of instructions.
 - d) a set of social conventions.

Part B (15 marks)

a) What is the difference between quantitative and qualitative data? Give an example of each.

(4 marks)

b) Give five examples of how software can be used in controlling and securing access to data.

(5 marks)

c) What is data compression? Give a detailed example of when and why it may be useful.

(6 marks)

Part C (5 marks)

In the space below, draw a simple flowchart to represent the following:

- Ask the question ‘How old are you?’
- Have the user input their age
- If the user inputs they are under 18 – give the response ‘Sorry, you are too young to vote’
- If the user inputs they are 18 or over – give the response ‘Congratulations, you are eligible to vote’
- Once a response is given back to the user, the question is asked again ready for the next user’s input

Part D (6 marks)

A prospective client has approached you to design a new website for them. After a brief meeting, the following information has been gathered about the target audience and intent of the website:

- Target audience
 - Teenagers
 - Mainly aged between 15–17
 - Primarily for Australians

- Content
 - Cyberbullying
 - Digital footprint
 - Staying safe online

Before creating the website, the client would like to meet with you about elements of your design (i.e. how to present the content to attract the audience and keep it interested).

Describe and justify two different design elements that you would recommend to the client.

Sample marking key

Part A (4 marks)

1 mark for each correct response

- 1 A
- 2 D
- 3 B
- 4 C

Part B (15 marks)

a) What is the difference between quantitative and qualitative data? Give an example of each.

| | |
|---|--------|
| Quantitative data – that which can be verified and able to be statistically manipulated | 1 mark |
| e.g. may include (but not limited to) temperature, dollars, quantity | 1 mark |
| Qualitative data – that which can be arranged into categories that are not numerical | 1 mark |
| e.g. may include (but not limited to) gender, location, colour | 1 mark |

b) Give five examples of how software can be used in controlling and securing access to data.

| | |
|---|------------------------------------|
| <p>Software can be used to:</p> <ul style="list-style-type: none"> • require login details prior to accessing information/data, ie limit authorisation to data • set different access levels to information for different users • protect against viruses • limit access via firewalls • encrypt data for security purposes. <p>Accept any other correct response.</p> | 1 mark for each example, maximum 5 |
|---|------------------------------------|

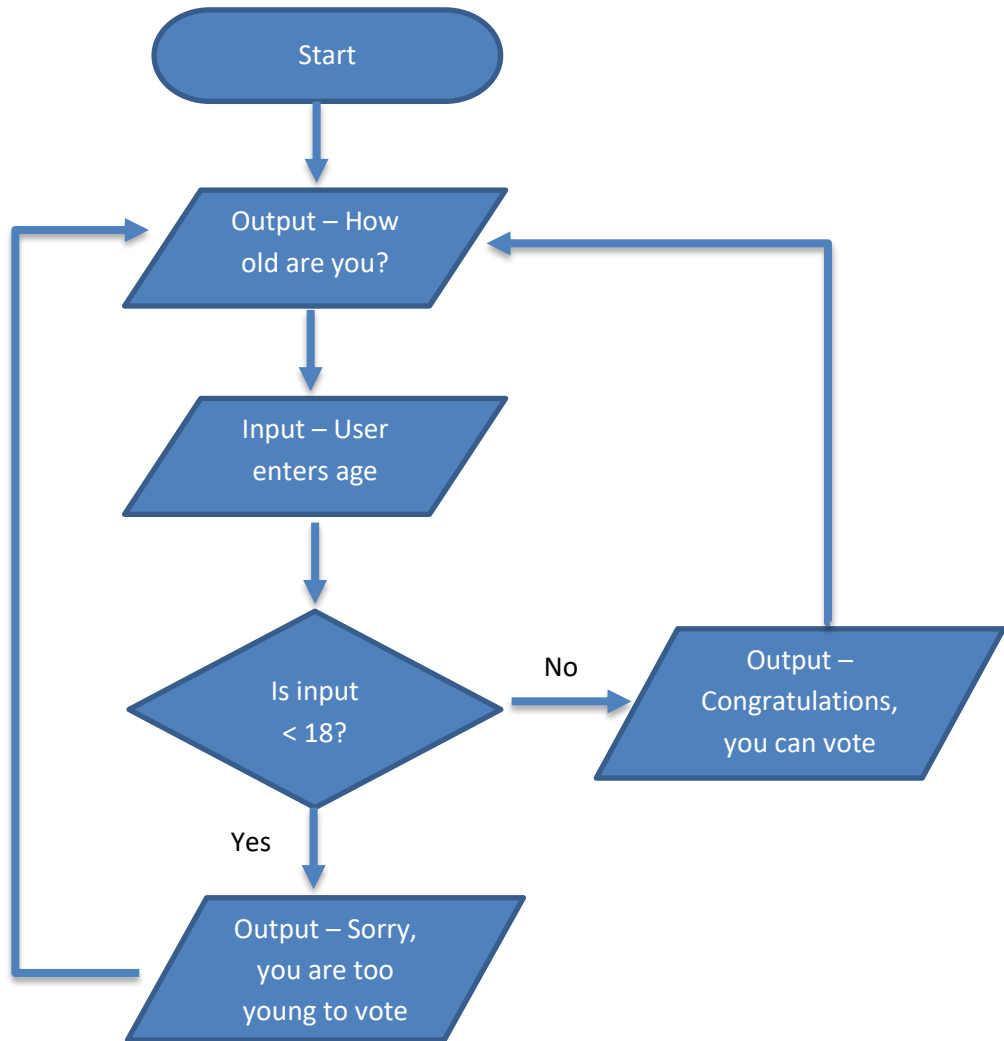
c) What is data compression? Give a detailed of example of when and why it may be useful.

| | |
|---|--|
| Data compression is encoding information using fewer bits than the original to reduce the file size | 2 marks |
| <p>Examples of use</p> <ul style="list-style-type: none"> • Send information electronically where file sizes are limited - eg email attachment • Faster transmission of data – eg loading images on website | <p>4 marks</p> <p>- 2 for example</p> <p>- 2 for reasoning</p> |

Part C (5 marks)

In the space below, draw a simple flowchart to represent the following:

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| | |
|----------------------------|---------|
| Use of correct symbols | 1 mark |
| Use of line to direct flow | 1 mark |
| Looping | 1 mark |
| Flowchart content | 2 marks |
| Accept any valid flowchart | |

Part D (6 marks)

A prospective client has approached you to design a new website for them. After a brief meeting, the following information has been gathered about the target audience and intent of the website:

- | | |
|-----------------|---|
| Target audience | <ul style="list-style-type: none">• Teenagers• Mainly aged between 15–17• Primarily for Australians |
| Content | <ul style="list-style-type: none">• Cyberbullying• Digital footprint• Staying safe online |

Before creating the website, the client would like to meet with you about elements of your design (ie how to present the content to attract the audience and keep it interested).

Describe and justify two different design elements that you would recommend to the client.

| | |
|--|---------|
| Element identified | 1 mark |
| Justification of element design idea – must relate back to target audience | 2 marks |

Reponses may include, but are not limited to:

Colours

- Use of vibrant colours rather than pastels for teenagers

Images

- Should be relevant to teenagers

Movement

- Teenagers are easily bored and need to keep their attention, eg rolling images, newsflash items

Music

- Needs to be current and suitable for their age group, but not too distracting

Links

- To other forms of social media that teenagers use frequently

Language style

- Avoid being too formal, can consider using emoji to communicate some ideas