

**Assessment Schedule – 2023****Digital Technologies and Hangarau Matihiko: Demonstrate understanding of a computer science concept (91898)****Assessment Criteria**

<b>Achievement</b>	<b>Achievement with Merit</b>	<b>Achievement with Excellence</b>
<p><i>Demonstrating <b>understanding</b> of a computer science concept involves:</i></p> <ul style="list-style-type: none"> <li>• identifying the computer science concept</li> <li>• providing details of how the concept is used, is implemented, or occurs</li> <li>• explaining how the concept has been or could be applied to address an opportunity</li> <li>• explaining relevant mechanisms that shape the concept.</li> </ul>	<p><i>Demonstrating <b>in-depth understanding</b> of a computer science concept involves:</i></p> <ul style="list-style-type: none"> <li>• explaining the impact of the concept.</li> </ul>	<p><i>Demonstrating <b>comprehensive understanding</b> of a computer science concept involves:</i></p> <ul style="list-style-type: none"> <li>• explaining key problems or issues related to the concept.</li> </ul>

**Cut Scores**

<b>Not Achieved</b>	<b>Achievement</b>	<b>Achievement with Merit</b>	<b>Achievement with Excellence</b>
0 – 2	3 – 4	5 – 6	7 – 8

## Artificial intelligence

### Evidence

N1	N2	A3	A4	M5	M6	E7	E8
<p>Makes a few comments, but the response is incomplete or does not relate to the chosen topic.</p>	<p>Makes relevant comments in some parts of the response, with some relevance to the chosen topic, but with insufficient detail.</p>	<p>Explains how artificial intelligence is used by an organisation, providing TWO advantages for using it.</p> <p>Explains how effective the chatbot is, and how it could be improved.</p> <p>Explains the limitations of the Turing Test OR how artificial intelligence is trained.</p> <p>Some aspects of the response may be partial or weak.</p>	<p>Gives a detailed explanation of how artificial intelligence is used.</p> <p>Gives a detailed explanation of how effective the chatbot is, and how it could be improved.</p> <p>Gives a detailed explanation of the limitations of the Turing Test OR how artificial intelligence is trained.</p>	<p>Explains future-proofing for unknown factors OR explains the positive / negative human factors of artificial intelligence.</p> <p>Some aspects of the response may lack detail.</p>	<p>Gives an in-depth explanation of future-proofing for unknown factors OR explains the positive / negative human factors of artificial intelligence.</p>	<p>Explains a key problem or issue of artificial intelligence.</p> <p>Explains the advantages and disadvantages of small businesses not using artificial intelligence OR explains key issues faced by a chosen company developing an artificial intelligence solution for their products.</p> <p>Some aspects of the response may be missing, for example; the relevance, purpose, need, and effectiveness.</p>	<p>Provides a detailed explanation of the key problems or issues related to artificial intelligence, including the relevance, purpose, need, and effectiveness.</p>

**N0** = No response; no relevant evidence.

## Computer security

### Evidence

N1	N2	A3	A4	M5	M6	E7	E8
<p>Makes a few comments, but the response is incomplete or does not relate to the chosen topic.</p>	<p>Makes relevant comments in some parts of the response, with some relevance to the chosen topic, but with insufficient detail.</p>	<p>Explains how computer security is used, including:</p> <ul style="list-style-type: none"> <li>• issues faced with safeguarding computer security for users</li> <li>• TWO steps a chosen company has taken to protect its users.</li> </ul> <p>Explains how computer security is used to address the scam email, including warning signs and suitable actions.</p> <p>Explains why two-factor authentication is used OR what reCAPTCHA is and how it limits criminal activity.</p> <p>Some aspects of the response may be partial or weak.</p>	<p>Gives a detailed explanation of how computer security is used, including:</p> <ul style="list-style-type: none"> <li>• issues faced with safeguarding computer security for users</li> <li>• TWO steps a chosen company has taken to protect its users.</li> </ul> <p>Gives a detailed explanation of how computer security is used to address the scam email, including warning signs and suitable actions.</p> <p>Gives a detailed explanation of why two-factor authentication is used OR what reCAPTCHA is and how it limits criminal activity.</p>	<p>Explains the impacts of computer security by:</p> <ul style="list-style-type: none"> <li>• explaining human factors of computer security</li> <li>• OR explaining future-proofing for unknown threats.</li> </ul> <p>Some aspects of the response may lack detail.</p>	<p>Gives an in-depth explanation of the impacts of computer security by:</p> <ul style="list-style-type: none"> <li>• explaining human factors of computer security</li> <li>• OR explaining future-proofing for unknown threats.</li> </ul>	<p>Explains a key problem or issue of computer security by:</p> <ul style="list-style-type: none"> <li>• providing advice to a young person going online for the first time on how to protect themselves and their computer</li> <li>• OR explaining the risks to clients who have made their data available to a chosen company.</li> </ul> <p>Some aspects of the response may be missing, for example; the relevance, purpose, need, and effectiveness.</p>	<p>Provides a detailed explanation of the key problems or issues related to computer security, including the relevance, purpose, need, and effectiveness.</p>

**N0** = No response; no relevant evidence.

## Encryption

### Evidence

N1	N2	A3	A4	M5	M6	E7	E8
<p>Makes a few comments, but the response is incomplete or does not relate to the chosen topic.</p>	<p>Makes relevant comments in some parts of the response, with some relevance to the chosen topic, but with insufficient detail.</p>	<p>Explains how encryption is used, including TWO advantages of a company using encryption.</p> <p>Explains how encryption is used to address a situation, including:</p> <ul style="list-style-type: none"> <li>• the advantages and disadvantages of using a password generator</li> <li>• whether or not it is a good idea to use the same password on multiple accounts.</li> </ul> <p>Explains the mechanisms of encryption, including:</p> <ul style="list-style-type: none"> <li>• what HTTPS is and why it is recommended instead of HTTP</li> <li>• the difference between one-way encryption and two-way encryption, and the scenarios in which you might use them.</li> </ul> <p>Some aspects of the response may be partial or weak.</p>	<p>Gives a detailed explanation of how encryption is used, including TWO advantages of a company using encryption.</p> <p>Gives a detailed explanation of how encryption is used to address a situation, including:</p> <ul style="list-style-type: none"> <li>• the advantages and disadvantages of using a password generator</li> <li>• whether or not it is a good idea to use the same password on multiple accounts.</li> </ul> <p>Gives a detailed explanation of the mechanisms of encryption, including:</p> <ul style="list-style-type: none"> <li>• what HTTPS is and why it is recommended instead of HTTP</li> <li>• the difference between one-way encryption and two-way encryption, and the scenarios in which you might use them.</li> </ul>	<p>Explains future-proofing a data breach OR the human factors involved in a business closing down which has a large amount of customer data.</p> <p>Some aspects of the response may lack detail.</p>	<p>Gives an in-depth explanation of future-proofing a data breach OR the human factors involved in a business closing down which has a large amount of customer data.</p> <p>Some aspects of the response may be missing, for example; the relevance, purpose, need, and effectiveness.</p>	<p>Explains a key problem of encryption, such as how to limit criminal activity online OR any major development in computer encryption and why it is important.</p>	<p>Provides a detailed explanation of the key problems or issues related to encryption, including the relevance, purpose, need, and effectiveness.</p>

**N0** = No response; no relevant evidence.