

## Candidate A

Task	Expected response	Additional guidance	Marks available	Marks awarded	Commentary on allocation of marks	
<b>1</b>	<b>Database design and development</b>					
1a	<p><b>1 mark</b> for identifying all four:</p> <ul style="list-style-type: none"> <li>Name (or forename/surname)</li> <li>Address (or street, town)</li> <li>Postcode</li> <li>Telephone number</li> </ul> <p><b>1 mark</b> for identifying:</p> <ul style="list-style-type: none"> <li>Task</li> </ul> <p><b>1 mark</b> for identifying all four:</p> <ul style="list-style-type: none"> <li>Job ID</li> <li>Staff ID</li> <li>Date</li> <li>Time</li> </ul>	Attribute names need not match the form in analysis stage.	3	2	<p>The candidate was awarded <b>1 mark</b> for identifying all four customer attributes (name, address, postcode and telephone number).</p> <p>The candidate was awarded <b>1 mark</b> for identifying the Task.</p> <p>The candidate could have gained a further mark for identifying that the “Office Use” information would also have to be stored.</p>	Analysis (3)
1b	<p><b>1 mark</b> for completion of each box:</p> <ul style="list-style-type: none"> <li>staffID – Primary Key</li> <li>staffID – Y</li> <li>surname – text</li> <li>topSkill – Lawn, Hedge, Weeds</li> <li>custRating – <ul style="list-style-type: none"> <li>✓ <math>\geq 1</math> and <math>\leq 10</math></li> <li>✓ <math>\geq 1 \leq 10</math></li> <li>✓ 1-10</li> <li>✓ 1,2,3,4,5,6,7,8,9,10</li> </ul> </li> </ul>	<p>Restricted choice must list every choice</p> <p>Range must include limits</p>	5	5	<p>The candidate is awarded <b>5 marks</b> for correctly completing the data dictionary.</p> <p>Note that the candidate listed all the possible inputs for custRating rather than giving a range. This is acceptable because the input is an integer and every possible integer between 1 and 10 was listed as a valid input.</p>	Design (5)

Task	Expected response	Additional guidance	Marks available	Marks awarded	Commentary on allocation of marks
1	<b>Database design and development</b>				
1c	<p><b>1 mark</b> each for printed evidence of each bullet point:</p> <ul style="list-style-type: none"> <li>• 9 fields created with correct                             <ul style="list-style-type: none"> <li>✓ primary key (jobID)</li> <li>✓ data types</li> <li>✓ sizes</li> </ul> </li> <li>• presence checks correctly assigned</li> <li>• range check correctly implemented on jobTime (&gt;=09:00 and &lt;=18:00)</li> <li>• restricted choice on task, limited to correct three options</li> <li>• linked table enforcing referential integrity</li> </ul>	<ul style="list-style-type: none"> <li>• accept application specific field types</li> <li>staffID size either 5 or 255</li> <li>• all required except phoneNo</li> <li>• validation rule may change according to field type implemented</li> <li>• implemented as either drop-down list or formula</li> <li>• diagram or relationship properties (one staff to many jobs)</li> </ul>	5	5	<p>The candidate is awarded <b>5 marks</b> for supplying complete evidence of field setup, validation and referential integrity.</p> <p>Note that the candidate has supplied two different forms of evidence for the range check on the jobTime field. If only one were correct the other would be ignored and the candidate would gain a mark.</p> <p>The evidence shows that the candidate has created a combo box in MS Access to implement the restricted choice. The restricted choice could also be implemented using a validation rule.</p> <p>Referential Integrity could be evidenced using the Documenter or by taking a screenshot of the relationship. When implemented correctly the screenshot should show a one-to-many relationship between the PK and FK using an -infinity symbol.</p>

Implementation (7)

Task	Expected response	Additional guidance	Marks available	Marks awarded	Commentary on allocation of marks
<b>1</b>	<b>Database design and development</b>				
1d	<b>1 mark each for implementing:</b> <ul style="list-style-type: none"> <li>UPDATE Staff SET address = "99 Willow Way, Falkirk, FA87 6FE"</li> <li>WHERE StaffID = "DS021";</li> </ul>	Do not award a mark if SQL created by application: <b>MS Access example</b> <pre>UPDATE Staff SET Staff.address = "99 Willow Way, Falkirk, FA87 6FE" WHERE ((Staff.[staffID]) ="DS021"))</pre>	2	1	The candidate was awarded <b>1 mark</b> for a correct WHERE statement.  Note that when tested adding single quotation marks to the table name and field name did not work.

Task	Expected response	Additional guidance	Marks available	Marks awarded	Commentary on allocation of marks	
<b>2</b>	<b>Software design and development</b>					
2a	Array used to store readings		1	0	The candidate was awarded <b>0 marks</b> as they use a single numeric variable to temporarily store a signal reading with their loop.	
	Fixed loop repeating 5 times (to enter readings)		1	1	The candidate was awarded <b>1 mark</b> as a single input line is repeated 5 times within a fixed loop.	
	Input Validation	conditional loop used		1	1	The candidate was awarded <b>1 mark</b> as they use a conditional loop to display an error message as part of input validation.
		correct condition for valid data	Until: reading $\geq 0$ AND reading $\leq 100$ or While: reading $< 0$ OR reading $> 100$	1	1	The candidate was awarded <b>1 mark</b> as the conditions in their loop are correct.
		input of reading	Award 1 mark if not implemented within input validation loop	1	0	The candidate was awarded <b>0 marks</b> as their input was not inside their conditional loop. This means their program would not ask for further input when invalid values are entered.
		error message		1	1	The candidate was awarded <b>1 mark</b> as an error message is displayed when invalid data is entered.
	Round reading to 0 decimal places		1	0	The candidate was awarded <b>0 marks</b> as they do not round the readings.	
					Implementation (15)	

1 mark for correct conditions	Strong: Reading > 80 Poor: Reading < 30	2	1	The candidate was awarded <b>1 mark</b> as their conditions correctly identify a strong, medium and poor signal.
1 mark for using rounded reading	(Medium: Reading >=30 and <=80)			The candidate would have been awarded a further mark if they had used rounded readings within their conditional statements.
Single variable used to store signal pattern	Variable names may differ in code	1	1	The candidate was awarded <b>1 mark</b> as they store the signal pattern in a single variable.
Pattern concatenated		1	1	The candidate was awarded <b>1 mark</b> as they concatenate the signal letters.  Note that this candidate stores the signal letters in three variables and then uses the variables in their concatenation.
Suitable message and signal pattern output		1	0	The candidate was awarded <b>0 marks</b> as their output does not include an additional message as well as the pattern.
Five (rounded) readings displayed as output with suitable messages within a loop	For example: For loop = 1 to 5 Print "Reading", loop, "is", reading(loop) End loop	1	0	The candidate was awarded <b>0 marks</b> . Although they display five readings this is not implemented within a loop.
Matches design: <ul style="list-style-type: none"> <li>• same top level sequence (loop 5, display, loop 5)</li> <li>• nested if statements (or elseif) with correct structure used to determine signal strength letter</li> </ul>		2	0	The candidate was awarded <b>0 marks</b> as their code does not match the overarching design of the program.

2b	The test table completed to produce the required signal pattern output (MPSPS) for <b>1 mark</b>	Test table should contain real or integer values within the following ranges: Reading 1: $\geq 30$ and $\leq 80$ Reading 2: $< 30$ Reading 3: $> 80$ Reading 4: $< 30$ Reading 5: $> 80$  Input must be numeric. Do not accept % symbols.	1	1	The candidate was awarded <b>1 mark</b> as their test data should result in the correct signal pattern.	Testing (5)
	Printed evidence of one successful run of the test table data		1	1	The candidate was awarded <b>1 mark</b> as their test run shows evidence of both inputs of their selected test data and subsequent outputs.	
2c	Completion of extreme test data for upper and lower limits of each signal strength <b>1 mark</b> for each pair: <ul style="list-style-type: none"> <li>• poor: <ul style="list-style-type: none"> <li>✓ 0</li> <li>✓ 29</li> </ul> </li> <li>• medium: <ul style="list-style-type: none"> <li>✓ 30</li> <li>✓ 80</li> </ul> </li> <li>• strong: <ul style="list-style-type: none"> <li>✓ 81</li> <li>✓ 100</li> </ul> </li> </ul>	Candidates may write values in any order.  Accept any values that round to the values given.  Check rounding according to language used.	3	3	The candidate was awarded all <b>3 marks</b> .  Note that the order of the six extreme values was not important when this task was marked.	

2d	<p>Evaluation of the following:</p> <p><b>Fitness for purpose (1 mark)</b></p> <ul style="list-style-type: none"> <li>comparison of their solution (code and testing) with program analysis and expected output</li> </ul> <p><b>Efficiency (1 mark)</b></p> <ul style="list-style-type: none"> <li>efficient use of at least one coding constructs</li> </ul> <p><b>Robustness (1 mark)</b></p> <ul style="list-style-type: none"> <li>how robust the program is, including if it copes with unexpected inputs</li> </ul> <p><b>Readability (2 marks)</b></p> <ul style="list-style-type: none"> <li>two comments on the readability of the candidate's own code</li> </ul>	<p>All evaluations must contain an element of evaluation rather than simple statements of terms. For example "I have used white space to highlight structures in my program" not "I have used white space".</p> <p>Efficiency answers may refer to:</p> <ul style="list-style-type: none"> <li>loops used instead of five individual inputs or outputs</li> <li>single variable only required for signal pattern rather than array of characters</li> <li>complex selection structure could have been used in place of separate "ifs"</li> <li>array used instead of five variables for readings</li> </ul>	5	1	<p>The candidate was awarded <b>0 marks</b> for "fitness for purpose" as their answer is very vague, only discussing a small part of the requirements of the task.</p> <p>The candidate was awarded <b>0 marks</b> for "efficiency". Their answer mentions the use of loops but not in the context of writing fewer lines of code.</p> <p>The candidate was awarded <b>0 marks</b> for "robustness" as their answer does not make sense.</p> <p>The candidate was awarded <b>1 mark</b> for "readability of code". Although their answer is weak the reference to internal commentary being used to "describe the actions" was clear enough to be awarded a mark. The candidate's white space answer "separates the unwanted codes" made no sense.</p>	Evaluation (5)
----	--	---	---	---	--	----------------

Task	Expected response	Additional guidance	Marks available	Marks awarded	Commentary on allocation of marks	
<b>3</b>	<b>Web design and development</b>					
3a	<p>Functional requirements could include the following for <b>1 mark</b> each:</p> <ul style="list-style-type: none"> <li>display text about Grieve Crafts</li> <li>display the product graphics (photographs)</li> <li>display text about the product being built</li> <li>link takes user to external information (about source wood)</li> </ul>		2	2	<p>The candidate was awarded <b>2 marks</b> for identifying functional requirements.</p> <p>Note that the candidate uses verbs to indicate that their answers are actions that should be carried out by the code:</p> <ul style="list-style-type: none"> <li>“be taken to”</li> <li>“display images”.</li> </ul>	Analysis (2)
3b	<p>Using the printout of the HTML file, confirm the following for <b>1 mark</b> each:</p> <ul style="list-style-type: none"> <li>all text and graphics content added, in the correct order, within structural head, title, body, elements: p, h1, h2, div etc and organised into three sections</li> <li>link from words “wooden pallets”, in Our Best Seller section, to external Wikipedia page about pallets</li> <li>link to external CSS file added in section</li> </ul>	<p>Text and graphics checklist:</p> <ul style="list-style-type: none"> <li>Company Name</li> <li>About Our Company, heading &amp; paragraph</li> <li>Our Best Seller, heading &amp; paragraph</li> <li>Three photos</li> <li>Three descriptions for photos</li> </ul>	8	6	<p>The candidate was awarded <b>0 marks</b> for “all text and graphics content added” as the web code had no &lt;body&gt; element.</p> <p>The candidate was awarded <b>0 marks</b> for “link from words wooden pallets” as the position of the link did not match the design.</p> <p>The candidate was awarded <b>1 mark</b> for successfully “linking to an external CSS file”.</p>	Implementation (8)

Task	Expected response	Additional guidance	Marks available	Marks awarded	Commentary on allocation of marks
3	<b>Web design and development</b>				
	<p>Using the printout of the CSS file and associated HTML elements to confirm the following for <b>1 mark</b> each:</p> <ul style="list-style-type: none"> <li>• Company Name styled correctly (alignment may be in CSS or HTML)</li> <li>• Both sub-headings styled correctly using the same CSS rules</li> <li>• Paragraphs and photo descriptions styled correctly using a single rule, applied four (or five) times</li> <li>• Three graphic sizes correct (CSS or HTML)</li> <li>• Syntactically correct colours applied in CSS to: three page sections page background</li> </ul>	<p>Helvetica, 24pt (24px), white, align right</p> <p>Helvetica, 18pt (18px) (black not required as default)</p> <p>Helvetica, 12pt (12px) (black not required as default)</p> <p>Width 200px, height 200px</p> <p>Page background</p> <ul style="list-style-type: none"> <li>• Lightblue</li> <li>• #ADD8E6</li> <li>• Any light blue colour</li> </ul> <p>Top section</p> <ul style="list-style-type: none"> <li>• Darkred</li> <li>• #8B0000</li> <li>• Any dark red colour</li> </ul> <p>Middle and bottom sections</p> <ul style="list-style-type: none"> <li>• Pink</li> <li>• #FFC0CB</li> <li>• Any pink colour</li> </ul>			<p>The candidate is awarded <b>1 mark</b> for styling the company name correctly.</p> <p>The candidate is awarded <b>1 mark</b> for correctly styling the sub-headings using a single CSS rule.</p> <p>The candidate is awarded <b>1 mark</b> for styling all the paragraph elements correctly.</p> <p>The candidate is awarded <b>1 mark</b> for adding a width and height of 200 pixels to all three image elements.</p> <p>The candidate is awarded <b>1 mark</b> for correctly styling the section and background colours.</p>