

## Specific marking instructions

Task	Expected response	Additional guidance	Marks available	
<b>1</b>	<b>Software design and development</b>			
1a	<p>1 mark for each bullet. Max 2 marks.</p> <ul style="list-style-type: none"> <li>♦ date is correct (UK) format (day/month)</li> <li>♦ date is within an acceptable range e.g. no 31<sup>st</sup> September</li> <li>♦ age is a whole number/integer</li> <li>♦ age is within an acceptable range</li> <li>♦ only one town and one mammal on each line</li> </ul>	<p>For two marks, must have two bullets from left.</p> <p>Award 1 mark for general reference to data that is valid/present/complete/formatted.</p> <p>Must specify town and mammal or state 4 values per line.</p>	2	Analysis
1b	<p>1 mark for each bullet.</p> <ul style="list-style-type: none"> <li>♦ identify first character</li> <li>♦ if not upper-case convert to upper-case</li> <li>♦ concatenate with remaining string</li> <li>♦ return string/variable/value</li> </ul>	<p>Accept reference to pre-defined functions in design for conversion.</p> <p>Return value should be referenced in previous steps.</p>	4	Design
1c	<p>Read in Mammals Data (2)</p> <ul style="list-style-type: none"> <li>♦ module with correct parameter passed or returned to read data from file to array of records</li> <li>♦ each line of sightings data stored in a record structure assigned to an array</li> </ul> <p>Find oldest person (3)</p> <ul style="list-style-type: none"> <li>♦ module with correct parameter passed and max displayed within procedure</li> <li>♦ initialise and re-assign max age</li> <li>♦ if statement to find correct max</li> </ul>	<p>If candidate uses parallel arrays as a data structure, award 0 marks for “read” procedure then accept appropriate parameter passing for parallel arrays in the remainder of the procedures/functions.</p> <p>Award 0 marks for bullets 2 and 3 if a pre-defined function is used in implementation instead of a finding maximum algorithm.</p> <p>Accept finding position of max value to produce output.</p>	15	Implementation

Task	Expected response	Additional guidance	Marks available	
1	<b>Software design and development</b>			
	<p>Upper-case function (3)</p> <ul style="list-style-type: none"> <li>♦ extract first character</li> <li>♦ if statement to convert to upper-case using ASCII/Char pre-defined function</li> <li>♦ return original or concatenated string</li> </ul> <p>Display dates of sightings (2)</p> <ul style="list-style-type: none"> <li>♦ module with correct parameter passed, correct use of the function and dates displayed within procedure</li> <li>♦ linear search to find sighting dates</li> </ul> <p>Display the number of sightings each day (3)</p> <ul style="list-style-type: none"> <li>♦ module with correct parameter passed, dayToCount (date) and count displayed within procedure</li> <li>♦ count initialised to 1 and incremented for a single date</li> <li>♦ dayToCount and count reset for each new date</li> </ul> <p>Implementation (2)</p> <ul style="list-style-type: none"> <li>♦ a single upper-case function called twice</li> <li>♦ modular (4 procedures and 1 function) and maintainable</li> </ul>	<p>Do not deduct marks for two separate functions for town and mammal at this step.</p> <p>Do not penalise if no step 4.12 or display for 30/09/2021.</p> <p>Maintainability should include evidence of meaningful identifiers, internal commentary, indentation and white space in the context of the program.</p>		
1d	<p>1 mark for each bullet. Max 2 marks.</p> <ul style="list-style-type: none"> <li>• watchpoint set on count variable</li> <li>• count increments by 1 (while date is 01/09/21) OR count is 6 when dayToCount changes to 02/09/21</li> </ul> <p>OR</p> <ul style="list-style-type: none"> <li>• watchpoint set on dayToCount</li> <li>• count should be 6 when dayToCount moves to 02/09/21</li> </ul>		2	Testing

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1	Software design and development		
1e	<p>Efficiency 1 mark for any bullet.</p> <ul style="list-style-type: none"> <li>• A single function can be used to check first characters of town and mammal</li> <li>• First character only changes if found to be lower-case</li> <li>• Accept explanation for inefficient</li> </ul> <p>Maintainability 1 mark for any bullet.</p> <ul style="list-style-type: none"> <li>◆ linking modularity to maintainability e.g. sub procedures can be edited independently</li> <li>◆ local variables prevent clashes with variables in other parts of the code</li> </ul>		2
			Evaluation