

6-A-Day – Computer Science GCSE (42)

<p>Q1</p>	<table border="1"> <thead> <tr> <th>Variable</th> <th>Data Type</th> </tr> </thead> <tbody> <tr> <td>Gender</td> <td>String</td> </tr> <tr> <td>Dose</td> <td>Real</td> </tr> <tr> <td>isPregnant</td> <td>Boolean</td> </tr> </tbody> </table> <p>1 mark per row</p>	Variable	Data Type	Gender	String	Dose	Real	isPregnant	Boolean	<p>3</p> <p>Allow known equivalent names of data types:</p> <p>String: alphanumeric/text. Do not accept character but accept an array of character or pointer to character. Real: single, double, float, decimal. Do not accept Number. Boolean: Yes/No, True/False</p>
Variable	Data Type									
Gender	String									
Dose	Real									
isPregnant	Boolean									
<p>Q2</p>	<ul style="list-style-type: none"> (Age < 20 is FALSE so <u>Dose</u> = 2 (Gender = "Female" is FALSE) so Dose = Dose * 0.5 ... therefore Dose = 1 	<p>3</p> <p>Award mark for first bullet only if 2 clearly refers to the dose.</p> <p>Allow follow through error for second and third bullet. i.e. if candidate has the wrong dose they can still get a mark for Dose * 0.5 and for doing this calculation correctly. (Typically $3 * 0.5 = 1.5$ which is therefore worth 2 marks)</p>								
<p>Q3</p>	<ul style="list-style-type: none"> (Age is less than 20 = true) so Dose = $0.1 * \text{Age}$ 1.9 <u>[isPregnant AND Dose > 1.5]</u> is TRUE Dose = 1.5 	<p>4</p> <p>Candidates do not need to refer to dose, provided it is clear that they are performing the correct operation.</p> <p>For 3rd bullet it is sufficient if the candidate has shown that both isPregnant and (Dose > 1.5) are TRUE (This may not be at the same point in the answer and they do not need to explicitly state the result of the AND)..</p>								
<p>Q4</p>	<ul style="list-style-type: none"> antivirus firewall 	<p>2</p>								
<p>Q5</p>	<p>e.g.</p> <ul style="list-style-type: none"> (User name and) password Only allows you to use the system if you are authorised Encryption Prevents hackers from understanding any data if accessed (e.g. passwords) Access rights To prevent files from being modified/deleted User access control Prevents users from making changes to the system <p>Marks in pairs</p>	<p>4</p> <p>Accept any security measure that is provided by the operating system itself but not by standard utility programs (even if the utility program is normally bundled with operating systems). <i>The first bullet is for identifying or a brief description of a measure.</i> <i>The second bullet is for a further more detailed description or a description of how the measure ensures security.</i></p> <p>Any reasonable biometrics is acceptable.</p>								
<p>Q6</p>	<p>High level code :</p> <ul style="list-style-type: none"> human oriented code / written by programmers contains words for commands / closer to English/natural language Machine independent /Portable to different systems Needs to be translated before it can be executed. Problem based One (high level) command equates to many machine code instructions. 									