

HOMEWORK 18 ANSWERS

12		<p>The following code has been written to total numbers entered by the user.</p> <p>Line 13 SET total TO 0 Line 14 REPEAT Line 15 RECEIVE value FROM KEYBOARD Line 16 SET total TO total + value Line 17 UNTIL value = 99</p> <p>The code runs without any reported errors however the total calculated is always incorrect.</p>		
	a	<p>Explain why the total is incorrect.</p>	<p>The loop ends when 99 is entered (1 mark)</p> <p>But this means that 99 is always added to the total before the loop exists (1 mark)</p>	2
	b	<p>Explain how the code could be corrected to remove the error.</p>	<p>Use an IF statement (1 mark) so that numbers which are not 99 are added to the total (1 mark)</p> <p>OR</p> <p>User a character such as "X" to escape from the loop (1 mark) and then use a function to convert the numbers entered to numeric values (1 mark).</p> <p>Don't accept subtracting 99 from total as this would be inefficient.</p>	2
	c	<p>Rather than use physical dice, the program will be edited to automatically generate different numbers from 1 to 12.</p>	<p>RND (1 mark)</p>	1
13				
	a	<p>What pre-defined function could be used to implement this?</p>	<p>IF weight >= 40 AND weight <=130 THEN</p> <p>One mark each for:</p> <ul style="list-style-type: none"> • weight >= 40 • AND • weight <=130 	3
	b	<p>State the data type of the variable weight.</p>	<p>Integer (1 mark)</p>	1

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c		<p>(see paper)</p> <p>When evaluating this code, it is found to be inefficient.</p> <p>Using a programming language of your choice, rewrite lines 15 to 22 of the code using more efficient constructs.</p>	<pre>FOR day FROM 1 to 7 DO RECEIVE carolrieDay[day] FROM KEYBOARD SET totalCalories TO carolrieDay[day] + totalCalories END FOR</pre> <p>One mark each for:</p> <ul style="list-style-type: none">• Fixed loop• Input using array / input and allocation to array• Running Total• Use of array in running total	4
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