



GCSE MARKING SCHEME

SUMMER 2016

**COMPUTER SCIENCE
UNIT 2: SOLVING PROBLEMS USING COMPUTERS**

4342/01

INTRODUCTION

This marking scheme was used by WJEC for the 2016 examination. It was finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conference was held shortly after the paper was taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conference, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about this marking scheme.

GCSE COMPUTER SCIENCE

Unit 2: Solving Problems Using Computers

Summer 2016

Mark Scheme

Task 1	Answer	MAX 6
	<p>One mark for each correct <u>pair</u> in the correct location: i.e. <h1> </h1> <center> </center> Accept either <p> or <p> </p> (No need to close p)</p> <p> (Note http:// is required or the link will not work correctly on many devices)</p> <p>Accept alternative tags e.g. <big></big> instead of <h1></h1>, etc</p> <p>Accept alternative HTML (not CSS) solutions which work (only if the identical formatting would be achieved).</p> <pre><html><body> <center> <h1> My Photo Edit</h1> <p> <i> Online photo editing for free!</i> </p> </center> <p>Need to crop, resize, or add a border to your photo? We <u>can</u> help! Need to adjust the colour, brightness, contrast, or sharpness? Upload your photo now for easy access to all our online tools. </p> <p>Click the link below to find out more:</p> <p> www.myphotoedit.co.uk</p> </body></html></pre>	<p>1</h1></p> <p>1</i></p> <p>1</center></p> <p>1</u></p> <p>1<a href></p> <p>1<http: or https:></p>

Task 2	Answer	MAX 9
	<p>Brackets+Bold text indicate other accepted Pseudocode.</p> <p>Accept i,j,k for loops, accept any other meaningful variable name.</p> <p>Amendments to check for zero entered or divide by zero error (and any further validation) accepted not expected.</p> <p>Line numbers not necessary Ignore indentation or lack of it.</p> <p>Accept alternative solutions as long as they provide the exactly the same result.</p> <p>The solution provides <u>all</u> correct outputs OR The solution provides <u>some</u> correct outputs</p> <p>Declare totalNumbers=0 Declare currentNumber=0 Declare maxNo =0 Declare minNo=99 Declare total=0 Declare average as real=0</p> <p>output "Please enter how many numbers are in the set:" input totalNumbers</p> <p>Repeat (for i = 1 to totalNumbers)</p> <p>output "Enter number:" input currentNumber</p> <p>if currentNumber >maxNo then maxNo= currentNumber endif</p> <p>if currrentNumber<minNo then minNo= currrentNumber endif</p> <p>total=total+ currentNumber</p>	<p>2 marks OR 1 mark</p> <p>Condone no declarations</p> <p>1(output text)</p> <p>1 (input)</p> <p>1 (Setup a loop for totalNumbers)</p> <p>1 (using IF for max or below for min)</p> <p>1 (adding total correctly)</p>

	<p>Until totalNumbers loops (next for)</p> <p>average=total/totalNumbers</p> <p>output "Total:" output total</p> <p>output "Average:" output average</p> <p>output "Highest:" output maxNo</p> <p>output "Lowest:" output minNo</p> <p>End</p>	<p>1 (calculate average - condone no real conversion)</p> <p>1 (output – value)</p>
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3.	<u>Indicative content:</u>	
(b)	World is pre-populated on load with: <ul style="list-style-type: none"> • one cat • one or more mouse holes • Two or more mice 	
(c)	<ul style="list-style-type: none"> • mouse moves randomly around world • Random movement implemented using getRandom() 	
(d)	<ul style="list-style-type: none"> • cat moves around world according to arrow keys • cat moves with a reasonable relative speed to mouse 	
(e)	<ul style="list-style-type: none"> • mouse is removed from world on collision with cat • Sound plays when cat and mouse collide 	
(f)	<ul style="list-style-type: none"> • Adding counter to world 	
(g)	<ul style="list-style-type: none"> • counter increases when cat and mouse collide 	
(h)	<ul style="list-style-type: none"> • mouse is removed from world on collision with mouse hole 	
(i)	<ul style="list-style-type: none"> • counter decreases when mouse and mouse hole collide • Implementation via parameter passing as opposed to wholly new method 	
(j)	<ul style="list-style-type: none"> • Greenfoot world saved correctly as FinalWJECChase 	

Band	Q3
	Max 15 marks
3	<p style="text-align: center;">11-15 marks</p> <p>The candidate has:</p> <ul style="list-style-type: none"> • Edited the world, including all or the majority of the functionality and features as required in the question and stated in the indicative content. The majority of the functionality and features is defined as a response that provides eleven to fifteen items of the functionality or features signalled in the indicative content • Used and fully exploited the programming facilities of the language • Demonstrated a sound understanding of the appropriate tools and techniques available to them • Written code that is well structured and functional
2	<p style="text-align: center;">6-10 marks</p> <p>The candidate has:</p> <ul style="list-style-type: none"> • Edited the world, including most of the functionality and features as required in the question and stated in the indicative content. Most of the functionality or features is defined as a response that provides six to ten items of the functionality or features signalled in the indicative content • Made use of an appropriate range of the programming facilities of the language • Demonstrated an understanding of the tools and techniques available to them • Written code that is functional
1	<p style="text-align: center;">1-5 marks</p> <p>The candidate has:</p> <ul style="list-style-type: none"> • Edited the world, including a limited range of the functionality and features as stated in the indicative content. A limited range of functionality or features is defined as a response that provides one to five items of the functionality or features signalled in the indicative content • Used a limited range of the programming facilities of the language • Demonstrated a limited understanding of the tools and techniques available to them • Written code that is only partially functional
0	<p style="text-align: center;">0 marks</p> <p>Response not credit worthy or not attempted.</p>