



GCSE MARKING SCHEME

SUMMER 2025

COMPUTER SCIENCE - UNIT 2
3500U20-1

About this marking scheme

The purpose of this marking scheme is to provide teachers, learners, and other interested parties, with an understanding of the assessment criteria used to assess this specific assessment.

This marking scheme reflects the criteria by which this assessment was marked in a live series and was finalised following detailed discussion at an examiners' conference. A team of qualified examiners were trained specifically in the application of this marking scheme. The aim of the conference was to ensure that the marking scheme was interpreted and applied in the same way by all examiners. It may not be possible, or appropriate, to capture every variation that a candidate may present in their responses within this marking scheme. However, during the training conference, examiners were guided in using their professional judgement to credit alternative valid responses as instructed by the document, and through reviewing exemplar responses.

Without the benefit of participation in the examiners' conference, teachers, learners and other users, may have different views on certain matters of detail or interpretation. Therefore, it is strongly recommended that this marking scheme is used alongside other guidance, such as published exemplar materials or Guidance for Teaching. This marking scheme is final and will not be changed, unless in the event that a clear error is identified, as it reflects the criteria used to assess candidate responses during the live series.

WJEC GCSE COMPUTER SCIENCE
UNIT 2 - COMPUTATIONAL THINKING AND PROGRAMMING
SUMMER 2025 MARK SCHEME

Guidance for examiners

Positive marking

It should be remembered that learners are writing under examination conditions and credit should be given for what the learner writes, rather than adopting the approach of penalising him/her for any omissions. It should be possible for a very good response to achieve full marks and a very poor one to achieve zero marks. Marks should not be deducted for a less than perfect answer if it satisfies the criteria of the mark scheme.

For questions that are objective or points-based the mark scheme should be applied precisely. Marks should be awarded as indicated and no further subdivision made.

For band marked questions mark schemes are in two parts.

Part 1 is advice on the indicative content that suggests the range of computer science concepts, theory, issues and arguments which may be included in the learner's answers. These can be used to assess the quality of the learner's response.

Part 2 is an assessment grid advising bands and associated marks that should be given to responses which demonstrate the qualities needed in AO1, AO2 and AO3. Where a response is not credit worthy or not attempted it is indicated on the grid as mark band zero.

Q	Answer	Mark	AO1	AO2	AO3	Total
1.	<pre> <html> <head> <title> New! Satellite Broadband </title> </head> <body> <center> <h1>New! Satellite Broadband </h1> </center> <p> Intermittent connection? Travelling? Need a reliable backup? </p> <p> You could use a new <i>Satellite broadband</i> connection! </p> <p> Visit www.sat.wjec.co.uk to find out more. </p> </body> </html> </pre>	<pre> 1(html) 1(head) 1(title) 1(body) 1(center) 1 (h1) 1(img) 1(ul and li x3) 1 (a href=" ") 1 (http://) </pre>		2b		10

Q	Answer	Mark	AO1	AO2	AO3	Total															
2.(a)	Examples below. <table><tr><td>Variable Name</td><td>Is a good self documenting identifier</td><td>Is NOT a good self documenting identifier</td></tr><tr><td>X</td><td></td><td>✓</td></tr><tr><td>First_Name</td><td>✓</td><td></td></tr><tr><td>Abcde</td><td></td><td>✓</td></tr><tr><td>totalCost</td><td>✓</td><td></td></tr></table> Indicative content: 1 mark for each explanation of a meaningful or non-meaningful identifier up to a maximum of 2 1 mark for each associated example up to a maximum of 2 Explanation of meaningful identifiers: - are variable names that clearly and concisely convey the purpose or content of the variable. - should be descriptive, using names that are relevant, and representative of the data stored in the variable. - help improve code readability, maintainability, and understanding by providing context about the variable's purpose. Explanation of non-meaningful identifiers: - are variable names that do not provide any useful information about the variable's purpose or content. - can include single-letter variables (e.g., "x", "y", "z"), generic names (e.g., "data", "info"), or obscure abbreviations that are not widely understood. - make it difficult for other developers or maintainers to understand the purpose of the variable, leading to potential confusion and errors. Examples: Meaningful identifiers: `customerName`: Clearly indicates that the variable stores the customer's name. `customerAddress`: Indicates that the variable stores the customer's address. `customerPhoneNumber`: Indicates that the variable stores the customer's phone number. Non-meaningful identifiers: `a`: Does not provide any context about the variable's purpose. `xyz`: An obscure, non-descriptive identifier. `temp`: A generic name that does not convey the variable's specific purpose.	Variable Name	Is a good self documenting identifier	Is NOT a good self documenting identifier	X		✓	First_Name	✓		Abcde		✓	totalCost	✓		4		2b		12
Variable Name	Is a good self documenting identifier	Is NOT a good self documenting identifier																			
X		✓																			
First_Name	✓																				
Abcde		✓																			
totalCost	✓																				

Q	Answer	Mark	AO1	AO2	AO3	Total
(b)	Maximum of 4 marks for whole question 2(b) Indicative content: 1 mark for each rule and 1 mark for each expansion up to a maximum of 4 marks. 1 Mark rule 1 Mark expansion Rules for Meaningful Variable Names: Use Descriptive Names: Choose variable names that describe the purpose or content of the variable. Avoid generic names like "x," "temp," or single-letter names. Follow a Naming Convention: Stick to a consistent naming convention, such as camelCase or snake_case, to make your code more readable. For example, camelCase could be used for variables like "totalPrice," while snake_case could be used for variables like "employee_list." Be Consistent: If you've used a particular variable name or naming convention in one part of your code, maintain that consistency throughout your project. Avoid Reserved Keywords: Do not use reserved keywords in the language you're using as variable names, as it can lead to confusion and errors.	4	1b			
(c)	Maximum 4 marks for 2(c) Variables store data in a program, with their scope determining where they can be accessed: local (1), global (1), and their lifetime specifying how long they exist- limited to a function/subroutine (1), the whole program (1).	4	1b			

Q	Answer	Mark	AO1	AO2	AO3	Total
3.	One mark for each correct output:			3		3
	2	1				
	5	1				
	3	1				

Q	Answer	Mark	AO1	AO2	AO3	Total
4.(a)	One mark for each correct output (Ignore case, inverted commas, colons and spaces etc.)			5		5
	Total Price: £55	1				
	Mean Price: £27.5 (accept 27.50)	1				
	Discount Earned	1				
	Amount of Discount: £5.5 (accept £5.50)	1				
	Final price: £49.5 (accept £49.50)	1				
(b)	Indicative content:	4			3b	4
	<pre> 1 totalPeople is integer 2 current is integer 3 4 totalPeople = 0 5 6 do 7 output "Input: " 8 input current 9 if current < 0 then 10 exit do 11 else 12 totalPeople = totalPeople + current 13 end if 14 loop 15 16 output "The total number attending is: " & totalPeople 17 18 End </pre>					
	Award 1 Mark for each of: Input a number (into a variable) Uses a rogue value (trap for < 0) to end the loop Correctly adds the total (total+= or ANY other) Outputs a variable					

Q	Answer	Mark	AO1	AO2	AO3	Total
5.	Award 1 mark per point below:				3b	8
(a)	New world class called Sealife in Greenfoot environment with correct image. (accept grid of more than 9*9)	1				
(b)	Class called Fish exists (on right) and has fish image (given or built in).	1				
(c)	World is populated with two (or more) Fish on open.	1				
(d)	Fish move left and right only (randomly) when on/added to world.	1				
(e)	Class called Jelly exists (on right) and has the jelly image (given or built in).	1				
(f)	World is populated with two (or more) jelly fish on open.	1				
(g)	Jelly fish move up and down only (randomly) when on/added to world.	1				
(h)	Greenfoot world saved correctly as <code>finalSealife</code> (ignore capital letters)	1				

Q	Answer	Mark	AO1	AO2	AO3	Total
6.	1 Mark for each correct answer only to a maximum 1 mark per sub question.			2b		6
(a)	World	1				
(b)	Actor	1				
(c)	Sea OR Sub OR Whirlpool OR Squid	1				
(d)	private static int totalCount; accept: totalCount	1				
(e)	counter or bumpcounter or Amount	1				
(f)	prepare();	1				

Q	Answer	Mark	AO1	AO2	AO3	Total
7.	Award 1 mark per <u>bulleted</u> point below:				3b	12
(a)	World is pre-populated on load with: - one Sub only - two or more Whirlpools - two or more Squids	1 1 1				
(b)	- Squids move “randomly” around world. - Whirlpool move “randomly” around the world.	1 1				
(c)	- Sub moves around world according to arrow keys. - Sub moves with appropriate relative speed to other objects	1 1				
(d)	- sound plays when Sub and Whirlpool objects collide - sound plays when Sub and Squid objects collide	1 1				
(e)	- counter added to world and set to 100. - counter decreases by 10 when sub and whirlpool or Squid objects collide.	1 1				
(f)	Greenfoot world saved correctly as FinalWJECSub7 (ignore typos/capitalisation)	1				