

GCSE

Computer Science

4512/1 – Practical Programming
Marking Grid

Centre Number	0	0	0	0	0	Candidate Number	0	0	0	0
Centre Name	xxxxxx					Candidate Name	Gaming Student 1 - Marty			

GCSE Computer Science (4512)

Component 1 Practical Programming (4512/1)

These grids should be completed and securely attached as a separate document to the front of the candidate's work.

They should be sent to the moderator if the candidate's work is requested, or retained at the Centre. If sent to the moderator they will be retained and not returned with the work.

Centre Name:	XXXXX	Centre Number:	00000
Candidate Name:	Gaming Student 1 – Marty	Candidate Number:	0000

Scenario Used (Please Tick):

Mobile:	<input type="checkbox"/>	Web:	<input type="checkbox"/>	Gaming:	<input checked="" type="checkbox"/>	Traditional:	<input type="checkbox"/>
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Programming Language(s) Used:

Scratch

Assessment criteria		Maximum mark	Mark awarded	Moderator mark
1.	Design of Solution	9	7	
2.	Solution Development	9	9	
3.	Programming Techniques Used	36	29	
4.	Testing and Evaluation	9	8	
		Total	63	53

Additional comments for the moderator (optional):

1 Design of Solution (9 marks)

Row	1 mark	2 marks	3 marks	Total for row
1	Produced a minimal outline of what the problem involves with minimal or no reference to the user's needs.	Produced evidence showing a good understanding of what the problem involves with reference to most of the user's needs .	There is evidence showing a thorough understanding of what the problem involves with reference to all or almost all of the user's needs .	3
Teacher comments	The student has described the problem and show a thorough understanding.			
2	Produced a minimal high level overview plan that may contain a minimal attempt to show how the problem is to be solved.	Produced a good high level overview plan that contains a reasonable attempt to show how the problem is to be solved.	Produced a thorough high level overview plan that clearly shows how the problem is to be solved.	2
Teacher comments	An excellent understanding of the problems is shown, although the planning lacks detail in parts, the gameplay box needs explaining.			
3	Produced minimal pseudocode (or suitable alternative) showing a few of the main blocks within the proposed solution.	Produced annotated pseudocode (or suitable alternative) showing most of the main blocks within the proposed solution.	Produced well annotated pseudocode (or suitable alternative) showing all or almost all of the main blocks within the proposed solution.	2
Teacher comments	The pseudocode produced shows most of the main blocks but lacks some annotation.			
	Total for Design of Solution			7

Please make any additional comments for the moderator below. This is optional.

Additional comments for the moderator (optional):

An excellent design well worth the top mark.

2 Solution Development (9 marks)

Row	1 mark	2 marks	3 marks	Total for row
1	There is minimal evidence showing a minimal understanding of how the final solution meets the needs of the user.	There is some detailed evidence showing a good understanding of how the final solution meets the needs of the user.	There is detailed evidence showing a thorough understanding of how the final solution meets the needs of the user.	3
Teacher Comments	The student has clearly explained all the main parts of the program and why they are suitable for the solution. The description of how they developed the solution is effective as evidence.			
2	A few of the original problem tasks have been catered for in the final solution.	Most of the original problem tasks have been catered for in the final solution.	All or almost all of the original problem tasks have been catered for in the final solution.	3
Teacher Comments	The student has shown that they understand clearly how the solution works to fit the tasks.			
3	There is a partially annotated code listing that may be incomplete .	There is a well annotated and mostly complete code listing.	There is a fully annotated and complete code listing.	3
Teacher Comments	Evidence is clear and well explained.			
	Total for Solution Development			9

Please make any additional comments for the moderator below. This is optional.

Additional comments for the moderator (optional):

3 Programming Techniques Used (36 marks)

Row	1 mark	2 marks	3 marks	4 marks	5 marks	6 marks	Total for row
1	A few of the programming techniques used have been stated showing no or very little understanding.	A few of the programming techniques used have been stated showing a minimal understanding.	Most of the programming techniques used have been stated showing a reasonable understanding.	There is a description of a few of the programming techniques used that shows a good understanding.	There is a description of most of the programming techniques used that shows a very good understanding.	There is a discussion of most of the programming techniques used that shows a thorough understanding.	5
Teacher Comments	The student has described the use of programming techniques clearly but has not explored alternatives.						
2	The few techniques used show how one or two of the different parts of the solution work together.	The techniques used show how a few of the different parts of the solution work together.	The techniques used show how most of the different parts of the solution work together.	The description shows how a few of the different parts of the solution work together.	The description clearly shows how most of the different parts of the solution work together.	The discussion clearly shows how the different parts of the solution work together.	5
Teacher Comments	The student clearly links most of the parts of the solution together.						
3	Only one area of the solution works as intended.	Only two areas of the solution work as intended.	A few areas of the solution work as intended.	Some areas of the solution work as intended.	Most areas of the solution work as intended.	All or almost all areas of the solution work as intended.	6
Teacher Comments	The final solution works as intended and has been well explained and tested.						
4	There is a statement about the choice of one or two of the programming techniques used in an attempt to create a solution in which parts have been efficiently coded.	There is a statement about the choice of a few of the programming techniques used to create a solution in which parts have been efficiently coded.	There is a statement about the choice of most of the programming techniques used to create an efficiently coded solution.	There is a description of the choice of a few of the programming techniques used to create an efficiently coded solution.	There is a description of the choice of most of the programming techniques used to create an efficiently coded solution.	There is a discussion justifying the choice of programming techniques used to create an efficiently coded solution.	5
Teacher Comments	There are descriptions of the efficiency of the techniques throughout the work although in a haphazard manner.						

5	The purpose and choice of one or two of the data structures used have been stated .	The purpose and choice of a few of the data structures used have been stated .	The purpose and choice of most of the data structures used have been stated .	The purpose and choice of a few of the data structures used have been explained .	There is evidence for an appropriate use of data structures with an explanation of the purpose of most of them.	There is evidence for an appropriate use of data structures with a discussion of the purpose of all or almost all of them.	4
Teacher Comments	The student has a clear understanding of the limitations of the data types and data structures available within this programming environment. Given these constraints the student has explained the data types that they have used.						
6	There is a statement of one or two of the techniques used (appropriate to the language chosen) within the code to make parts of the solution as robust as possible.	There is a statement of a few of the techniques used (appropriate to the language chosen) within the code to make the solution as robust as possible.	There is a statement of most of the techniques used (appropriate to the language chosen) within the code to make the solution as robust as possible.	There is a description of a few of the techniques used (appropriate to the language chosen) within the code to make the solution as robust as possible.	There is a description of most of the techniques used (appropriate to the language chosen) within the code to make the solution as robust as possible.	There is a discussion of all or almost all of the techniques used (appropriate to the language chosen) within the code to make the solution as robust as possible.	4
Teacher Comments	The student has described how their solution is robust. In the solution development section the student looks at the robustness of the robot movement, ensuring that it does not move out of range. The student has also noticed a potential logical error when progressing to level 3 where the solution becomes impossible to complete, and has resolved it by adding functionality to ensure the solution can be used.						
Total for Programming Techniques Used							29

Please make any additional comments for the moderator below. This is optional.

Additional comments for the moderator (optional):

4 Testing and Evaluation (9 marks)

Row	1 mark	2 marks	3 marks	Total for row
1	There is a minimal test plan that shows a few of the expected tests and includes a few examples of the test data to be used and/or the expected results.	There is a test plan that shows most of the expected tests and includes most of the test data to be used and the expected results.	There is a full or nearly full test plan that shows all or nearly all of the expected tests and includes the full test data to be used and the expected results.	3
Teacher Comments	Testing is thorough and complete.			
2	There is evidence that a few of the planned tests have been carried out and a record of the results has been produced. There is minimal evidence that an attempt to carry out any required remedial action has been taken.	There is evidence that most of the planned tests have been carried out and a record of the results has been produced showing whether each test was successful or not. There is evidence that most of the required remedial action has been carried out.	There is evidence that all or almost all of the planned tests have been carried out and a detailed record of the results has been produced showing the extent to which every test was successful. There is evidence that all or almost all of the required remedial action has been carried out.	2
Teacher Comments	Remedial action is clearly described within the solution development. The screen shots of test results have been shown but lack some explanation of the evidence.			
3	There is an evaluation stating how the final solution meets a few of the original needs of the user. There is a significant number of errors in the use of spelling, punctuation and grammar. The form and style of writing is only partially appropriate. Information is not always organised and the use of specialist vocabulary is minimal.	There is an evaluation describing how the final solution meets most of the original needs of the user. Most of the evidence is accurately spelt, punctuated and grammatically correct to make most of the meaning clear. The form and style of writing is mostly appropriate. Information is organised and specialist vocabulary has been mostly used appropriately.	There is an evaluation discussing how the final solution meets all or nearly all of the original needs of the user. The evidence is accurately spelt, punctuated and grammatically correct to make the meaning clear. The form and style of writing is appropriate. Information is clearly organised and specialist vocabulary has been used appropriately.	3
Teacher Comments	The student has produced an excellent report and discussion on the solution.			
	Total for Testing and Evaluation			8

Please make any additional comments for the moderator below. This is optional.

Additional comments for the moderator (optional):