# GCSE

Computer Science

4512/1 – Practical Programming

Marking Grid

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| Centre Number |  |  |  |  |  | Candidate Number |  |  |  |  |
| Centre Name |  | | | | | Candidate Name |  | | | |

**4512/MG**

**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.*

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| Centre Name: |  | Centre Number: |  |
| Candidate Name: |  | Candidate Number: |  |

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| Scenario Used (Please Tick): | | | | | | | |
| Mobile: |  | Web: |  | Gaming: |  | Traditional: |  |

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| Programming Language(s) Used: |  |

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| **Assessment criteria** | | | | **Maximum mark** | **Mark awarded** | | **Moderator**  **mark** | |
| **1.** Design of Solution | | | | 9 |  | |  | |
| **2.** Solution Development | | | | 9 |  | |  | |
| **3.** Programming Techniques Used | | | | 36 |  | |  | |
| **4.** Testing and Evaluation | | | | 9 |  | |  | |
|  | | | **Total** | 63 |  | |  | |
|  | | | |  |  | |  | |
| **Additional comments for the moderator (optional):** | | | | | | | | |
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1. **Design of Solution (9 marks)**

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| --- | --- | --- | --- | --- |
| **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**. |  |
| Teacher comments |  | | | |
| **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. |  |
| Teacher comments |  | | | |
| **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. |  |
| Teacher comments |  | | | |
|  | **Total for Design of Solution** | | |  |

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

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| **Additional comments for the moderator (optional):** | | | | | | | |
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**2Solution Development (9 marks)**

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| **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. |  |
| Teacher Comments |  | | | |
| **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. |  |
| Teacher Comments |  | | | |
| **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. |  |
| Teacher Comments |  | | | |
|  | **Total for Solution Development** | | |  |

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

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| **Additional comments for the moderator (optional):** | | | | | | | |
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**3 Programming Techniques Used (36 marks)**

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| **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. |  |
| Teacher Comments |  | | | | | | |
| **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. |  |
| Teacher Comments |  | | | | | | |
| **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. |  |
| Teacher Comments |  | | | | | | |
| **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. |  |
| Teacher Comments |  | | | | | | |

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| **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. |  |
| Teacher Comments |  | | | | | | |
| **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. |  |
| Teacher Comments |  | | | | | | |
|  | **Total for Programming Techniques Used** | | | | | |  |

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

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| **Additional comments for the moderator (optional):** | | | | | | | |
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**4 Testing and Evaluation (9 marks)**

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| 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. |  |
| Teacher Comments |  | | | |
| **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. |  |
| Teacher Comments |  | | | |
| **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. |  |
| Teacher Comments |  | | | |
|  | **Total for Testing and Evaluation** | | |  |

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

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| **Additional comments for the moderator (optional):** |