HOW TO APPROACH YOUR WRITE-UP

1 Design of Solution (9 marks)

Row	1 mark	2 marks	3 marks
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	Many ways to tackle this but one of the most effective is to go through the scenario, task by task explaining what needs to be done – consider USER NEEDS and keep saying 'user needs' in your write up! Do not just regurgitate the scenario – you need to show you understand the difficulties/problems that you have to consider when approaching each task.		
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	Detailed and annotated flowcharts.		
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	Annotated pseudocode – can deal with this is blocks of code and explain		

2 Solution Development (9 marks)

Row	1 mark	2 marks	3 marks
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	With reference to the user needs in design section, consider, task by task the actual code you will be using to meet each user need. Include a printscreen of the code used for that task and explain what it is doing – in detail and RELATE TO USER NEEDS		
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	Attempt all tasks BUT if you don't get time to do the extension task, you can still gain 3 marks here if 'almost all' of the tasks have been covered (i.e. everything else)		

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	Include a full and continuous copy of your code – fully annotated. Three easy marks if you do this.		

3 Programming Techniques Used (36 marks)

Row	1 mark	2 marks	3 marks	4 marks	5 marks	6 marks
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	Consider all of the programming techniques you have used. Explain what each technique is about and give specific examples of each techniques. Techniques may include variables (global and local), functions, for loops, while loops, if statements, elif, try/except, etc, etc, etc					
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	Describe how the solution works together with a description of functions/procedures and global variables. The main menu is used to put these into context. The descriptions and annotation in the code should also clearly explain how the solution works together. For top marks you need a discussion, e.g. different types of functions and the use of parameters for example.					
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	**The solution works as intended**					

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	Justify the choices of programming techniques used and consider alternatives. E.g. the use of integers – why not float, real or strings for main menu. Use of ffunctions and global variables so can be re-used in different parts of the program, less code..., etc. try/except statements (if used) to catch errors early on. Data as a parameter to a function Vs global variable.					

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	Consider integers, strings, lists or arrays if used. Give an example in your coursework and explain what it stores and why 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.
Teacher Comments	Think of as many things that could go wrong when user using the programming. What measures have you incorporated into the program to prevent these errors occurring? Did you use a forloop for a set number of times looped? Clear instructions to avoid user operator errors. Try/except statement. Any validation used e.g. key length 8 characters. Describe methods used and discuss alternatives.					

4 Testing and Evaluation (9 marks)

Row	1 mark	2 marks	3 marks
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	A test plan is needed with actual test data that you will use e.g. not 'a file name' but actual file name – 'sample.txt'. aa parts of the program needs to be tested and using a variety of test data – ideally 'normal', 'extreme' and 'erroneous' data e.g. for testing a menu with different options 1 to 3 you would test all the options 1, 2 and 3 where the extreme data is 1 or 3 – i.e. the outer limits of the allowable range. Also test an incorrect value e.g. 12 and you could also put an alphanumeric value e.g. 'two'.		

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	Reference test evidence to the test and printscreen evidence – i.e. what happens when the data is entered. ALL tests stated in the test plan must be tested and evidenced and a short comment on whether test was successful or not. If a test does not work for some reason, you need to correct the error and retest, explaining error, what adjustments made and printscreen of retest.		
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	How does the final solution meet the user needs? Consider each in turn. What alternative methods could you have used? E.g. a GUI instead of menu system, if you didn't use try/except or validation you could mention these etc. justify the methods you used and whilst you can talk of improved/different ways of doing the task you are not adding extra functionality above what is mentioned in the scenario.		