**fuASSIGNMENT 1 BRIEF**

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| **Qualification** | **BTEC Level 5 HND Diploma in Computing** | | |
| **Unit number and Title** | Unit 1: Programming | | |
| **Assignment title** | Problem solving with algorithms | | |
| **Academic Year** |  | | |
| **Unit Tutor** |  | | |
| **Issue date** |  | **Submission date** |  |

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| **Submission Format:** |
| *Format:* The submission is in the form of an individual written report and a presentation. This should be written in a concise, formal business style using single spacing and font size 12. You are required to make use of headings, paragraphs and subsections as appropriate, and all work must be supported with research and referenced using the Harvard referencing system. Please also provide a bibliography using the Harvard referencing system.  *Submission* Students are compulsory to submit the assignment in due date and in a way requested by the Tutors. The form of submission will be a soft copy in PDF posted on corresponding course of <http://cms.greenwich.edu.vn/>  *Note:* The Assignment *must* be your own work, and not copied by or from another student or from  books etc. If you use ideas, quotes or data (such as diagrams) from books, journals or other sources, you must reference your sources, using the Harvard style. Make sure that you know how to reference properly, and that understand the guidelines on plagiarism. *If you do not, you definitely get fail* |
| **Assignment Brief and Guidance:** |
| **Scenario**: You have applied for a post as a trainee with a software development company and have been invited for an interview. You have been asked to demonstrate your problem solving and basic programming skills. To do this you have to prepare a report on using algorithms to solve problems.  You need to explain, using examples, how algorithms are used to solve simple business problems and the steps needed to be followed to produce a working program solution. You should make clear your assumption about your program. The problems to be solved will involve basic procedural programming instructions - sequence instructions (input, output and assignment statements), loops, conditional statements. Problems should be analysed and designed by the use of flowchart and demonstrated by the use of modules (procedures) using a menu based program.  Tasks:   1. State your simple business problems to be solved. 2. Analyse the problem and design the solutions by the use of suitable methods. 3. Demonstrate the compilation and running of a menu-based program 4. Evaluate how the problem is solved from the designed algorithm to the execution program written by a specific programming language.   You also need to do a presentation of your work (it should be summary of your report). |

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| **Learning Outcomes and Assessment Criteria** | | |
| **Pass** | **Merit** | **Distinction** |
| **LO1** Define basic algorithms to carry out an operation and outline the process of programming an application | | |
| **P1** Provide a definition of what an algorithm is and outline the process in building an application. | **M1** Determine the steps taken from writing code to execution. | **D1** Examine the implementation of an algorithm in a suitable language. Evaluate the relationship between the written algorithm and the code variant. |

Describe a Problem

* Tìm số lớn nhất / bé nhất trong 1 array được cho sẵn
* Tìm số lớn thứ nhì / bé thứ nhì trong 1 array được cho sẵn
* Sắp xếp 1 array int theo thứ tự từ bé đến lớn
* Tìm Trung vị (Median) của 1 array int

Design and Analyze

* Vẽ Flowchart
* Viết PseudoCode

Implement

* Implement bằng C# code

Testing

* Viết Test Case

Deploy

* Deploy package cho khách hàng