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| **Edexcel National Extended Diploma QCF** | | |
| **Assignment no:** U15.01  **Assessment Title:** Explaining Object Oriented Techniques | | |
| Assessor: Trevor Till | Student: | Group: S/W Dev Yr2 |
| Unit Number: Unit 15 | Unit Title: Object Oriented Programming | |
| Hand out date: Mon 18/10/19  Resubmission authorised by:(BTEC only) | Hand in date: Sun 17/11/19  Resubmission hand in date: | Date handed in:  Date handed in: |

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| **Scenario**  You are a new programmer for a company developing software systems. In the past, they have used Java for object oriented projects but you have built some different object oriented programs for them using C#.  Your boss wants you to explain the object oriented techniques and the C# syntax that makes them work so that Java programmers will be able to see what you have done in C#.  She wants you to use any previous code that you have developed so that Java programmers will get some knowledge of how C# works.  **Tasks**  Task 1 – Features of OOP  Write a detailed explanation of the key features of Object-Oriented Programming, this includes:   * how to think about, and code, how ‘real world’ objects can be coded as classes and instantiated as objects * how classes and objects use properties and methods * how abstraction and encapsulation help programmers to make code modular and the benefits of using classes in a modular way, especially loosely coupled code * the use and benefits of inheritance and polymorphism   Use examples drawn from your own programs or, if appropriate, from elsewhere.  You should then go on to evaluate just how suitable object-oriented programs are for graphical applications, showing their strengths and weaknesses for this, based on your explanations of their features.  Task 2 – Tools and techniques of an OOP language  Show how the VB IDE is useful for OOP programming in C#, eg, use of the Solution Explorer ‘window’, how to add classes in separate modules, how to use a class in a different VB solution, how to use classes developed by different programmers in your own code. |

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| **What to hand in:**   1. The report |

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| **How to hand in your assessment**  This assessment must be uploaded to VLE.by the hand in date on the front of the assignment brief.  If you have a valid reason why you will not be able to hand in the work on time (up to 3 days later), you will need to fill out and hand in an AE form. |

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| **Student declaration:**  I have read the Assignment Submission Procedure. I agree that this is my own work or my own work and that of other members of my group. It has not been copied (plagiarised) from any other source e.g. the internet, a book, another student or group of students. I know that I may FAIL this assignment if the Head of School proves that this is not my own work. | | | |
| Student signature |  | Date: |  |

For staff use only.

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| **Internal Verification** | This assessment has been verified and form IV8 completed: | IV name:  Ben Sterry | IV signature:  Ben Sterry | Date:  22/09/2019 |

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| **SMOG index:** | 13.4 |

Test for readability on scenario and tasks only OR workbooks tasks. Appropriate scores are: L3 = 16; L2 = 13/14; L1 = 11/12; entry level = 9/10

Link here: <http://www.readabilityformulas.com/free-readability-formula-tests.php>

**Assessor marking grid**

**Student name:**

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| Grading criteria | Grading criteria | Achieved  Not submitted  Fail  Resubmission | Comments/Feedback | Target date  for resubmission  (BTEC FE only - within 15 working days of receipt of results of assessment) |
| P1 | explain the key features of object oriented programs |  |  |  |
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| P2 | demonstrate the use of object oriented tools and techniques |  |  |  |
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| M1 | explain the importance of encapsulation, polymorphism and inheritance on object oriented programming |  |  |  |
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| M2 | give reasons for the tools and techniques used in the production of an object oriented application |  |  |  |
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| D1 | evaluate the suitability of object oriented programs for graphical applications |  |  |  |
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| **General comments and feedback on English and maths** |

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| ***Actual Grade*** | ***Grading criteria*** | *P1* | *P2* | *M1* | *M2* | *D1* |  |  |  |  |  |  |  |  |  |  |  |  |  |
| ***Achieved?*** |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |

Please note that the grade that you have been awarded is subject to confirmation following internal verification and external sampling by the Awarding Body.

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| I certify that the evidence submitted for this assignment - either via the VLE or other method - is the learner’s own. The learner has clearly referenced any sources used in the work. I understand that false declaration is a form of malpractice. |

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| Assessor signature: | Date marked: |