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| |  |  |  |  |  | | --- | --- | --- | --- | --- | | |  | | --- | | Higher Education Assignment Front Sheet | | | | | | Curriculum Area | | Awarding Body | | | Digital & Creative Innovation - BSoC | | Lancaster University | | |  | | | | | **Assessment Details** | | | | | |  | | --- | | No | | 2 of 2 | |  | | --- | | Type | | Practical - Letter Grade | | |  | | --- | | Word count | | |  |  |  | | --- | --- | --- | | |  | | --- | | 2500 | |  | | |  | | --- | | Weighting | | 60% | | |  | | --- | |  | | | | | | **Module and Programme Details** | | | | | Title | Object-Orientated Programming | | | | Credits | 20 | Stage | Stage 2 Level 5 | | Code | IN5MD028 | Occurrence | 24/25 | |  | IN1WD009 23/26 BSc (Hons) Digital and Technology Solutions - Software Engineer | | | |  | IN1WD009 23/26-FEB BSc (Hons) Digital and Technology Solutions - Software Engineer | | | | |  | | --- | |  | | | | | | **Tutor Details** | | | | | Name | Jason Walker | |  | | --- | | Email | | jason.walker@blackpool.ac.uk | | Room | SB052a | Tel | 01253 50 4124 | | |  | | --- | |  | | | | | | **Internal Verification** | | | | | IV Name | James Dunkerley | |  | | --- | | Peer | | Lee Holroyd | | Date | 3rd October 2024 | |  | | --- | | Date | | 13th Sept 2024 | | |  | | --- | |  | | | | | | **Distribution** | | | | | Date | [**w/c]** 28th October 2024 | | | | |  | | --- | |  | | | | | | **Submission and Feedback** | | | | | Location | Canvas upload | |  | | --- | | Feedback W/C | | 13th January 2025 | | Date | 10th December 2024 | Time | 12:00 pm (Noon) | | |  | | --- | | *Please note that late submissions may incur a penalty as defined within the assessment regulations of the awarding body* | | | | | | |  | | --- | |  | | | | | | If you would like support from a [HELM](https://blackpoolfylde.sharepoint.com/sites/StudentSPLive/SitePages/Higher-Education-Learning-Mentors.aspx) please complete the referral form [here](https://forms.office.com/Pages/ResponsePage.aspx?id=bO09z_OQKUuKpqJMOJo3rGBV5JGWUklFjiSKWAKaktlURFVDOUtPMlJBNlE1S05YRTVFS0pHVVJaVS4u) | | | | | Student/Apprentice Declaration | | | | | It is your responsibility to ensure that your work is in the correct format, that you have submitted the correct file, and that you have submitted all the work you want assessed. Once you have completed your submission online you can download the file that you have submitted to confirm that your work has been received as intended. If the College is unable to open your file, it may not be marked. | | | | | The College must ensure as far as possible that the work submitted by students and apprentices is their own and that credit is not given for unreferenced material from other sources, including AI generated material.  By submitting work for this assignment, you acknowledge that the content is entirely your own work and that it has not been submitted whole or in part for the award of a degree or other qualification by you or any other person.  You confirm that all sources have been properly cited and referenced. You are expected to have familiarised yourself with the College regulations relating to assessment and academic malpractice and you should be aware that your work will be subjected to automated checks for plagiarism and material generated by artificial intelligence software. | | | | | Learning Outcomes Assessed in the Assignment | | | | | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | |  |  | | --- | --- | | 3 | Design OOP solutions with industry-standard documentation. [S18] | | 4 | Implement OOP solution with polymorphism, abstraction, inheritance, and encapsulation. [S18] | | 5 | Test, debug, and document OOP solutions. [S18] | | | | | | | Grade Descriptors (Aligned to the learning outcomes and the primary descriptors of the awarding body )  *The descriptions below provide an indication of the requirements for each grade boundary for this assignment* | | | | | Excellent | The submission provides an excellent design overview of the prototype through industry standard documentation.  The submitted prototype application demonstrates excellent adherence to the object orientated programming paradigm.  The submission documents the testing process with excellent adherence to best practice and debugging process. | | | | Good | The submission provides a good design overview of the prototype through industry standard documentation with minor inaccuracies or quality.  The submitted prototype application demonstrates good alignment to the object orientated programming paradigm.  The submission documents the testing process with good alignment to best practice and debugging process. | | | | Satisfactory | The submission provides a satisfactory design overview of the prototype through suitable documentation.  The submitted application demonstrates some adherence to the object orientated programming paradigm which provides a satisfactory prototype.  The submission documents the testing process with some alignment to best practice and debugging process but is generally lacking detail or accuracy. | | | | Weak | The submission provides a weak design overview of the prototype but is suitable for the requirements.  The submitted prototype application demonstrates little alignment to the object orientated programming paradigm but it has been attempted.  The submission documents the testing process but overall lacks detail or sufficient level of testing and the debugging process. | | | | Fail | The submission fails to demonstrate alignment to the criteria above based on the following:   * Documentation * Object Orientated Prototype * Testing and Debugging Processes | | | | |  | | --- | | Additional Requirements (where applicable)  *This section describes any additional assessment requirements which may be identified by public statutory and regulatory bodies* | | | | | | S18: Use appropriate analysis methods, approaches and techniques in software engineering  projects to deliver an outcome that meets requirements. | | | | | |  | | --- | | Assignment Brief | | | | | | Light Logistics would like to congratulate you on your pitch during your interview and have offered you a fixed term position. They were intrigued with your approach at enhancing their warehouse stock system and have asked if you could design, develop and test a prototype.  As part of this you will demonstrate your ability to adapt and enhance a system to provide an early prototype which will be developed further in the future.  You have been provided a Python template based on previous exploration into enhancing our current system. You are at liberty to utilise this as a starting point or consider a language and approach you feel is more appropriate. TASK Design and develop a small object orientated prototype application to which you should provide a brief professional technical design document suitable to the project.   * Brief overview of the intended architecture for it to run on for example, Android / Microsoft or cross platform. * Chosen language and brief justification to reasoning. ✅ * Class Case Diagram / Sequence Diagram and simple annotated wireframe are preferred however other relevant UML diagrams will be considered. * Intended testing process   + Test Cases outlined (if performing test driven development) document test errors * Items considered in scope and out of scope.   You should then look to develop and debug the small object orientated prototype in your chosen language or enhance the Python one provided.   * Ensure this considers best practice and the 4 pillars of development   + (Abstraction, Inheritance, Polymorphism and Encapsulation - <https://www.geeksforgeeks.org/python-oops-concepts/>)   + Best Practice for example styling and version control  (Python - <https://peps.python.org/pep-0008/> )  (Version Control e.g., git <https://ieeexplore.ieee.org/document/7342358> ) * During the process, you should look to test and debug features through-out the prototype build and document them demonstrating good testing practice.  Guidelines: Do not write 2500 words for the technical design document / testing. The word breakdown has been attributed to the processes as outlined below:   * 600 words have been attributed to the work on Technical Design document including UML diagrams. * 1400 words have been attributed to the development and debugging of the prototype * 500 words have been attributed to testing documentation.   You are allowed to use AI as a supportive development tool to enhance and support your own work but your prompts should be included in the references section or screenshots in appendices. DELIVERABLES: You should look to submit a report in doc or docx format to canvas by the deadline outlined in the brief.  This report should include:   * a cover page with your name, module name and date ✅ * a contents page outlining your report structure ✅ * a URL to an accessible development area e.g., GitHub / GitLab ✅ * your technical design document inclusive of all UML tools or accessible links (figma provide link Mirror, wireframe, visual markup) ✅ * testing documentation with reference to your debugging process on failed test cases.(show how the code works, add screenshots) ✅ * Appendices and References   Your work should use references where applicable for example the justification on your chosen language. | | | | |