COS20007

OBJECT ORIENTED PROGRAMMING

Learning Summary Report

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Self-Assessment Details

The following checklists provide an overview of my self-assessment for this unit.

Self-Assessment Statement

	Pass (D)	Credit (C)	Distinction (B)	High Distinction (A)
Self-Assessment			x	

Minimum Pass Checklist

	Included
Learning Summary Report	x
Test is Complete	x
C# programs that demonstrate coverage of core concepts	x
Explanation of OO principles	x
All Pass Tasks are Complete	x

Minimum Credit Checklist (in addition to Pass Checklist)

	Included
All Credit Tasks are Complete	x

Minimum Distinction Checklist (in addition to Credit Checklist)

	Included
Custom program meets Distinction criteria & Interview booked	x
Design report has UML diagrams and screenshots of program	x

Minimum Low-Band (80 – 89) High Distinction Checklist (in addition to Distinction Checklist)

	Included
Custom project meets HD requirements	

Minimum High-Band (90 – 100) High Distinction Checklist (in addition to Low-Band High Distinction Checklist)

	Included
Research project meets requirements	x

Declaration

I declare that this portfolio is my individual work. I have not copied from any other student's work or from any other source except where due acknowledgment is made explicitly in the text, nor has any part of this submission been written for me by another person.

Signature: **Le Gia Hoang An**

Portfolio Overview

This portfolio includes work that demonstrates that I have achieve all Unit Learning Outcomes for COS2007 Unit Title to a **Distinction** level.

I believe that I have applied and demonstrated a good understanding of object-oriented programming, as I have applied the knowledge of four key concepts of OOP to my custom program project in task 6.4 and Shape Drawing projects. I have demonstrated that I have successfully applied unit testing frameworks to test and debug any errors the tasks that was given by my instructor, as I have been received grading on tasks that require me to use NUnit framework such as the SwinAdventure maze game. Furthermore, I have also demonstrated my skills in constructing a UML class and sequence diagrams to visualize what data types and classes are required for the program and how my program will be used in various use cases in task 6.3. I have also learned from some of the recommended practices that would be necessary for object-oriented programming development such as single responsibility principle, avoid overusing global variables, and use good naming conventions. Other than applying, I am able to explain and describe the four key concepts of OOP in task 6.2. Additionally, I can apply the object-oriented programming concept to other programming languages other than C#, as shown in task 11.1 where I built a counter clock in JavaScript. Therefore, I am certain that I have satisfied the criteria and requirements to achieve Distinction Level.

Task Summary

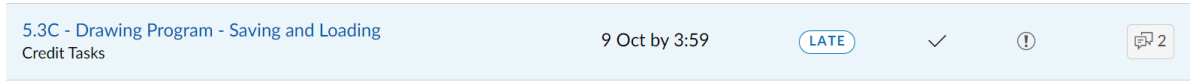
To demonstrate my learning in this unit, I would like the following tasks to be considered part of my portfolio:

- 4.1P – Drawing Program – Multiple Shape kinds

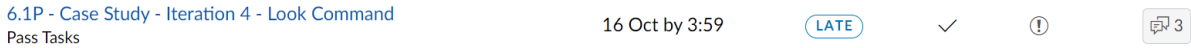
- 4.2P – Case Study – Iteration 2 – Players, Items, and Inventory

- 5.2P – Case Study – Iteration 3 – Bags

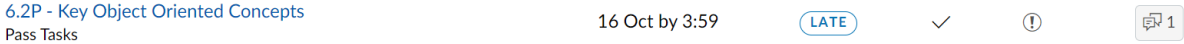
- 5.3C – Drawing Program – Saving and Loading



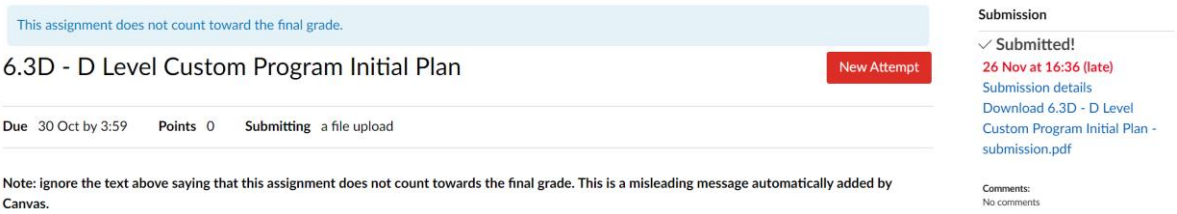
- 6.1P – Iteration 4 – Look Command



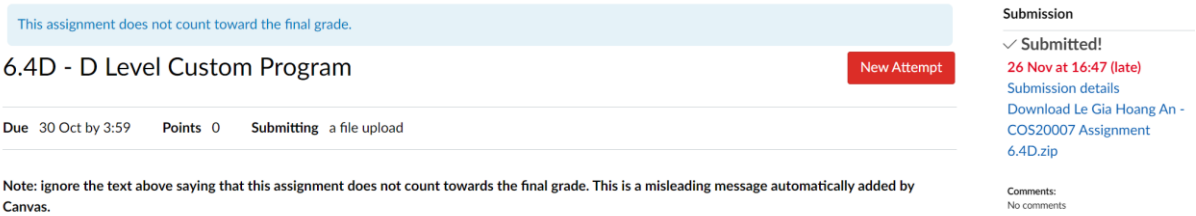
- 6.2P – Key Object-Oriented Concepts



- 6.3D – D Level Custom Program Initial Plan

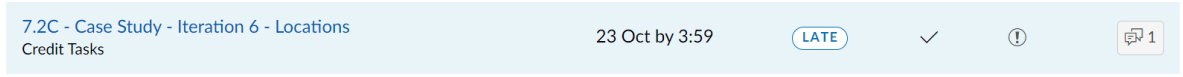


- 6.4D – D Level Custom Program



- 7.1P – Case Study – Iteration 5 – Tying It Together

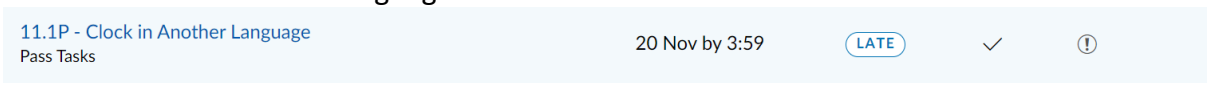
- 7.2C – Case Study – Iteration 6 – Locations



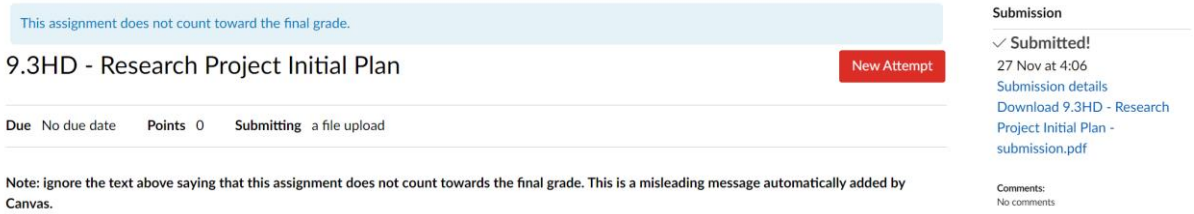
- 9.2C – Case Study – Iteration 7 – Paths

- 10.1C – Case Study – Iteration 8 – Command Processor

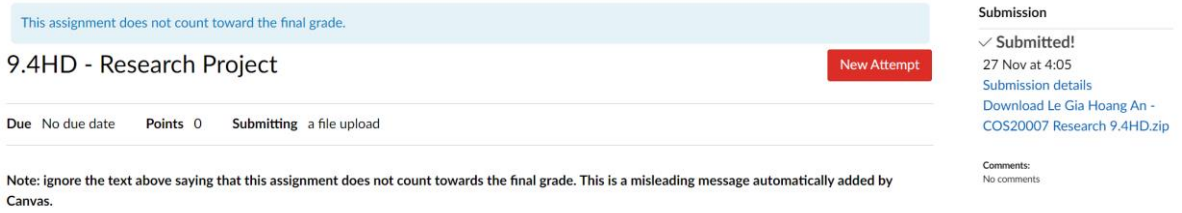
- 11.1P – Clock in Another Language



- 9.3HD – Research Project Initial Plan



- 9.4HD - Research Project



Reflection

The most important things I learnt:

[Think about topics covered, but also other general things you may have learnt. Think about what you have learnt in this subject, and reflect on what you think were key learning points, or incidents. Did you learn what you wanted/expected to learn?]

I believe that the most important things I have learnt in this unit was the key concepts of OOP, good practices in OOP such as avoid using global type frequently and have good naming conventions. I have also learnt that there are more to OOP than just coding, as I have discovered that OOP requires design patterns that are best suited for the problem that needs to be solved, as well as the importance of drawing the UML diagrams before coding.

The things that helped me most were:

The SwinAdventure maze game project was the most helpful thing for me in this unit, as I was able to learn and apply the key concepts, along with other good practices and designing UML classes and sequence diagrams. This gives me a great practical experience.

I found the following topics particularly challenging:

The most challenging topics that I have encountered in this course are tasks 6.5 and 6.6 where I must apply a design pattern to custom program that was built in tasks 6.3 and 6.4. I was only able to figure out that I can apply the Observer Design Pattern to the custom program. However, it was more difficult than I expected and unfortunately, I was not able to implement this design pattern for tasks 6.5 and 6.6.

I feel I learnt these topics, concepts, and/or tools really well:

The topics of inheritance, polymorphism, abstraction, and encapsulation are the topics that I have learnt a lot from. This is evident in the list of completed tasks that were shown above in the Task Summary section. I have been able to apply the four key concepts in all those tasks.

I still need to work on the following areas:

There are things that I need to improve on after my experience in this unit. For example, I was not able to efficiently debug my program and my code was still not fully optimized to the professional standards. Some topics such as design patterns were difficult for me to grasp, as I tried implementing one of the concepts to my custom program for task 6.5 and 6.6. My working pace was also a bit slower than usual this semester due to outside matters that impacted my learning.

My progress in this unit was …:

I was able to submit my work frequently during the first few weeks of the semester. However, by the time of week 5, I began to struggle to keep up with the deadlines, resulting many late submissions on my ends. At this point, I was trying to do my best to not rely on asking for help too much because it would hinder my learning process. However, I felt that I should have engage with my tutor more often, so that he can explain to me the concepts or works that I was struggling with. I have also learnt, despite the family matters that I had to

adhere to, this was not the excuse for my late submissions. I should have learnt to manage my time better because this will also impact my work progresses in future units.

This unit will help me in the future:

This unit will be a big help for me in the future in my chosen career of software development. The key concepts about OOP and design patterns are what makes a programmer to being able to produce good code and software that are not only fully optimized, but extremely secure as well.

If I did this unit again I would do the following things differently:

[List and explain, how will you approach learning in the future? What things worked well, but what could you change to make sure you did better next time?]
If I did this unit again, I would spend more time to clear out all the tasks that were given to me on time, so that I could have more time to spend on my custom program projects and research projects, so that I could be able to learn a lot more about the concepts that I may have missed in this unit during this semester.