COS10009
Introduction to Programming

Learning Summary Report

Lecturer: Ms. Siti Hawa Mohamed Said
Name: Ye Myat Kyaw
Student ID : 105229651

Self-Assessment Details

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

	Pass (D)	Credit (C)	Distinction (B)	High Distinction (A)
Self-Assessment (please tick)			77	

Self-assessment Statement

	Included (please tick)
Learning Summary Report	✔
Test 1 and Test 2 are Compete in Ed	✔
All Pass level tasks completed (including tutorial tasks)	✔

Minimum Pass Checklist

	Included (please tick)
All Credit Tasks are Complete in Ed	✔

Minimum Credit Checklist, in addition to Pass Checklist

	Included (please tick)
Distinction tasks (other than Custom Program) are Complete	✔
Custom program meets Distinction criteria & Interview booked	✔
Design report has structure chart and screenshots of program	✔

Minimum Distinction Checklist, in addition to Credit Checklist

	Included (please tick)
HD Project included	
Custom project meets HD requirements	

Minimum High Distinction Checklist, in addition to Distinction Checklist

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:

Journey through the Creation of Programs

This portfolio includes work that demonstrates that I have achieve all Unit Learning Outcomes for COS10009 – Introduction to Programming to a **Distinction** level.

In this portfolio, the significant concepts and skills I have learned throughout this course will be explored intricately and a grade of Distinction is aimed for.

Overall, the portfolio covers the topics that are the key learning points, which are interesting, challenging, through my programming journey and how they are essential for future studies and career development.

One of the most crucial aspects of this unit was the effective and efficient use of functions, parameters, modules particularly within the context of GOSU.

Key Learning Points

- Functions

  Functions are vital in creating a program since the readability and reusability is significantly improved. For instance, all the functions taught since the start of the semester were reused and implemented to build the Music Player (Major Pass and Credit Task).

- Parameters and Variables

  As a consequent, function parameters as well as the importance of local and global variables were explored; how local variables act independently from other functions within its own boundary.

- GOSU Library

  In addition, the GOSU library of the ruby program was an incredible learning experience for me since it was the very first language that can display a screen using pixels which is programmable at my own will. It was not only challenging but also rewarding at the end of the course in the creation of my custom program which is a recreation of the classic "Snake Game".

Interesting Topics Personally

- GOSU Library

  I found the GOSU ruby library and the use of nested functions were quite interesting as they were a new learning curve throughout studies. The use of inputs, both keyboard and mouse, to move a particular object on the screen without crossing the border was quite intriguing, which was learnt in the GOSU tasks.

- Nested Functions

  Moreover, the nested functions used especially in the Music Player in which reading an album calls other functions regarding tracks and printing them in an orderly manner was quite fascinating.

Challenging Topics Personally

- Custom Program – "Snake Game"

The most challenging part of the course for me was the custom program, "Snake Game" as it was developed for scratch. Although the game screen was fairly easy to create, the moving snake, fruit regeneration and ending the game became incredibly difficult as errors started to appear such as the fruit spawning on top of the snake, delays in the moving actions and the snake hitting its head and ending the game during turns and so on. Each error had to be traced back step by step and then debugged to achieve the final working product that is close to the tradition snake game in terms of how the game works.

- Introduction to GOUS

GOSU, being a new topic for me, presented unique challenges. What is more, GOSU was not taught as intricately as the ruby program and, therefore, self-learning through the GOSU tasks especially, Drawing Shapes using GOSU, GOSU major cycle and Hover Button Tasks. As I was getting the hand of GOSU, the music player distinction and the custom program were assigned and so it was difficult at the start and it was an incredible learning experience for me.

Skills Learnt

- Graphical Interface

I feel confident in my understanding of using Gosu for graphical programming. The exercises, particularly those involving moving shapes and borders, helped me in creating visually appealing and functionally sound programs

- Program development

After the creation of the GUI music player and the snake game, I believe that my knowledge regarding the handling of functions, parameters, variables and program structures have improved a lot.

Topics I still need to work on

- Recursive function

Although I have basic understanding of how recursive functions, I am still not confident enough to use them as intricately as I use other functions, and loops in a nested format

- Maze Search Task

As a result, I was unable to finish the maze search task in which a recursive function was to be used in order to find the path towards the end of the maze.

If I were to did this unit all over again, I would have put more effort into the recursive functions and maze search task so that all units taught were learnt at its finest.

In conclusion, the course COS10009 significantly enhanced my learning experience. Prior to this course, I had only a basic understanding of concepts like variables, looping, and basic functions. Now, I am confident in writing nested functions, designing graphical interfaces, and creating entire programs from scratch. This transformation has greatly enriched my programming skills.