KIT001 Programming Preparation Learning Reflection Report

Paul Watts (569987)

Self-assessment Details

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

	PP	CR	DN	HD
Self-assessment	☐	☐	☐	☒

Self-assessment Statements: Select the box with the grade you are applying for

	Submitted/completed
Learning Reflection Report	☒
Test 1 and Test 2 are Completed in MyLO	☒
All Pass Tasks are Completed on MyLO	☒

Minimum Pass Checklist

	Submitted/completed
All Credit Tasks are Completed on MyLO	☒

Minimum Credit Checklist, in addition to Pass Checklist

	Submitted/completed
All Distinction Tasks are Completed	☒

Minimum Distinction Checklist, in addition to Credit Checklist

	Submitted/completed
HD Task is Completed	☒

Minimum High Distinction Checklist, in addition to Distinction Checklist

Portfolio Overview

This portfolio includes work that demonstrates that I have achieved all Unit Learning Outcomes for KIT001 Programming Preparation to a **High Distinction** level.

I am applying for a HD+ level for this unit.

I believe this is justified as I've attended all lectures , taken an active part in all of the tutorials, achieved high marks in both tests and completed all of the Portfolio Tasks to a HD level.

This is the first time I've studied Python and have enjoyed learning this language.

Due to my interest in learning more about the language I've read a lot of articles, purchased eBooks on Python and watched a lot of YouTube videos. It's my intention to keep studying Python after this unit finishes, to an expert level.

Based on the lectures, tutorials, assignments, tests, and my wider reading I believe I have a very good understanding of all the learning outcomes for this unit which includes:

Types, Variables, Control structures, Arithmetic operators, Problem solving and simple algorithm development, Input and output, method calls, Parameter passing, Method definition, Simple GUI elements – using existing classes.

I'm very comfortable reading and writing Python code and have developed proficiency in IDLE, Visual Studio Code with the Python extension, and the PYCHARM Integrated Development Environment.

Also proficient in installing and updating Python on Windows, MacOS and Linux and comfortable using virtual environments (VENV) to maintain version dependences for Python projects.

During this semester I've started to build a knowledge base for my Python learning which can be accessed here:

https://tarry-biology-e83.notion.site/Python-c487189e2fb447daa558ba350c45d9bb

Reflection

The most important things I learnt

Python source code is comparatively easy to read and write and requires much less "boiler-plate" compared to languages such as C and Java which I have also studied.

I found it much easier to understand classes and object orientation in Python than I did in Java and much easier to use functions.

Based on my reading Python appears to be one of the most popular languages in the world and used everywhere from the Mars rover, the International Space Station and is the number one choice for data science and machine learning here on Earth.

It is used widely by Scientists and Engineers because they can write code for themselves without having to become software development experts due to the fact Python is easy to learn and comes with a powerful Standard Library and powerful 3rd party libraries such as NumPy, SciPY, Matplotlib, Pandas and many others.

The most import thing I learnt is that I greatly enjoy everything about Python and the Python community and intend continuing my studies to become an expert in the language.

The things that helped me most were

It helped that lectures and tutorials were oriented around the Portfolio Tasks so that incremental achievements could be obtained rather than trying to cram everything for one big exam at the end of the Semester. I much prefer this model and believe it is far more conducive to learning.

I found the following topics particularly challenging

I did not find any topics challenging as I've studied other programming languages in the past and found Python to be easy to learn and read and write Python code.

I found the following topics particularly interesting

I found the "for" and "while" loops particularly interesting with their ability to iterate over objects such as Lists, Arrays, Dictionaries, etc in a very concise and easy to understand way.

I believe I learned these topics, concepts, or tools really well

I believe I learned all the topics and tools really well as demonstrated by the standard of my portfolio tasks and answers to ad-hoc questions in the tutorials and my high marks in both tests.

I still need to work on the following areas

This semester we only did small projects with simple project structures. I want to learn how much larger projects are structured. I also want to learn what is available in the Standard Library to assist with my Python projects. Also want to learn how to interface Python with C libraries as from my reading, since Python is written in C, it is quite easy to do this compared to many other languages.

My progress in this unit was …

Due to the workload with another subject there were fast and slow times although I did complete all assignments well before the May 27th deadline.

This unit will help me in the future

This unit will help me as now that I have learnt the basics of Python I'm very keen to learn a lot more about it. There are a number of projects that I will now develop in Python rather than another language. I'm also keen to explore data science and machine learning further using Python.

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

I'm satisfied with the way I approached everything in this Unit and wouldn't do anything differently

Other comments

The knowledge base link I shared on the 1st page demonstrates my wider reading and learning beyond this Unit. I will be adding to this knowledge base on a regular basis as my learning continues in the coming months and years.

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