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| **Qualification Details** | | | |
| **Training Package Code & Title** | UEE11 – Electrotechnology Training Package (Release 6.0) | | |
| **Qualification National Code & title** | **UEE40720 – Certificate IV in Electronics and**  **Communications** | **State code:** | **BFP4** |
| **UEE40120 – Certificate IV in**  **Computer Systems** | **BFL8** |
| **UEE50520 – Diploma of Electronics and**  **Communications Engineering** | **BFP5** |
| **UEE50120 – Diploma of**  **Computer Systems Engineering** | **BFQ6** |

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| **Student Name** |  | | |
| **Student Declaration** | I declare that the evidence submitted is my own work:  **………………………………………………………………………….** | | |
| **Assessors Name** | Saranya Chandrukannan | | |
| **Date Due** | Week 18 | **Date Received** | Click here to enter a date. |

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| **Units of Competency (UoC) detailed in this DAP | Week/Stage/Block/Cluster : Embedded Applications** | | | |
| **Unit National code and title** | UEECS0020 – Evaluate and modify object oriented code programs | **State Code** | OCA73 |
| UEEIC0012 – Develop structured programs to control external devices | OCA08 |
| **Assessment Tool** | **AT4\_Portfolio4**  Develop simple and challenging program | | |

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| **Assessment Decision** | Satisfactory | | | Not Yet Satisfactory | | |
| **Assessor Signature** |  | | **Date** | | Click here to enter a date. | |
| **Feedback to student** | | | | | | |
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| **Feedback from student** | | | | | | |
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| **Student signature** | |  | **Date** | | |  |

**Assessment Instruction**

**Instruction to the student:**

* OHS will be observed for the entire Assessment.
* The attached checklist will be used to mark your assessment submission. Please read it carefully before start working on your assessments.
* You must finish all the activities.
* You must fill the “Debugging Table” (at the end of the assessment sheet) with your problems/issues that you have faced during the program development process. **This table cannot be left blank.**
* This worksheet is to be completed during the lecture/lab, if possible, and submitted as a **single zip file or zipped file** via the Blackboard submission button before the due date.
* You can use the following tools to develop your programs at home. However, you need to represent your work and how have you done it to your lecturer.
* Python 3 web Interpreter
* Raspberry Pi Sense HAT Web Emulator
* W3School Python Reference
* Python Tutorial
* API Documentation
* Object-oriented language reference documentation

# **Introduction:**

*This assessment introduces you to understanding the use of operators, user input and literals. To deepen your understanding of Python you are required to attempt all activities and questions.*

**Student Checklist:**

Students are required to complete all the below tasks within one week (**PC1.4)**.

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| --- | --- |
| Tasks (OHS will be observed for the entire Assessment) **[PC1.1/1.2/2.1]** | Completed to Industry Standard. You will be required to demonstrate knowledge of established OHS procedures and best practices (e.g. safe handling practices) |
| Finish Task 1 |  |
| Log for problems and their. Please Use the table (**Debugging Table**) at the end of the assessment. | **[PC2.5/ 2.6]**  **[PC 3.1/ 3.2/ 3.3]** |

**TASK 1**

* For this assessment you will be required to create a basic Python program that reads data from the env\_data.csv file (created as part of Practical Portfolio Task 03) and generates a line chart using the pygal/Pandas/matplotlib module.

Be sure to read all task requirements carefully before you begin this assessment.

Task requirements:

* Demonstrate knowledge of established OHS procedures and best practices (e.g. safe handling practices), Python language features, operators, control structures, syntax, Classes, Objects and file access.
* You are required to write a Python program that fulfils the following requirements:

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| --- |
| **ACTIVITY 1** |
| 1. Must read data from the env\_data.csv file (either your own or the one provided):  * The data is to be output as a line chart using the pygal/pandas/matplotlib module. * Each data can be displayed on its own chart or collectively (i.e. one chart each for   temperature, humidity and pressure OR all data on one chart).PC1.4; PC1.5;PC2.2;PC2.5; |
| 1. The data should be plotted with reference to time.PC1.5; PC2.2;PC2.3;PC2.4; |
| 1. Program must contain reasonable documentation.   Programs with no documentation will require resubmission.  PC1.5; PC2.2;PC2.3;PC2.4; |
| 1. Program must be reasonably tested with example or actual data to ensure code functionality. Include the screen shots of your program.   PC1.5; PC2.2;PC2.3;PC2.4; |
| 1. **Testing your code:**   In addition to the above requirements, you must also write a brief paragraph detailing how you tested your program (i.e. debugging). You may use dot points for formatting purposes; your brief must be at least four sentences explaining your testing methodology. PC1.5; PC2.2;PC2.3;PC2.4;PC3.3;PC3.2 |

**ACTIVITY 3**

Log for problems. Please Use the (**Debugging Table**) for **Any problems, including errors and bugs when developing coding.**

**Debugging Table (Must be filled)**

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| **Any problems, including errors and bugs** | **Solutions** | **Date** |
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**Table 1**