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| **Qualification national code and title** | ICT50220 Diploma of Advanced Networking |
| **Unit/s national code/s and title/s** | ICTPRG443 Apply intermediate programming skills in different languages |

**Assessment type:**

☐ Questioning (Oral/Written)

☒Practical Demonstration

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| Personal computer with Python IDE (PyCharm or similar) and internet access.  Access to Blackboard shell “ICTPRG443 Apply intermediate programming skills in different languages  ”. |  |
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☐ 3rd Party Report

☐ Other – Project/Portfolio (*programs)*

**Assessment Resources:**

**Assessment Instrument:**

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| **Assessment 2: Python Lists and Dictionaries**  You are working for a boutique software development company in Perth. The department head has asked you to write some programs to highlight the types of problems you generally solve to a new cohort of (junior) employees.  For quality assurance purposes, you may also need to debug and test your programs. You must also show the correct use of comments and other documentation (e.g., docstrings). This will help the new employees to learn to organisational requirements that apply to writing software.  **Part A**  In the first part of this assessment, you must design, code, and test a program that uses a **Python list** data structure.  Use the following scenario:   * A list that stores at least 12 of your favourite actors/actresses’ names. * A list that stores at least 12 of your favourite movies. * A list that stores at least 12 of your favourite games.  1. Write a Python program that provides the ability to:    1. Create a list from scenario above    2. Add a value to the list    3. Delete a value from the list    4. Sort all the data in the list in the ascending order. Sort all the data in the list in the descending order.    5. Search for the value in the list asking user for input. 2. Debug and test your program. You must write unit tests to test the functionality specified above. Screenshot your test results. 3. Comment your programs and upload your evidence in compressed format into the Blackboard assessment area.   **Part B**  In the second part of this assessment, you must design, code, and test a Python program that uses a **dictionary** data structure.  Use the following scenario:   * A dictionary that stores at least 12 of your favourite actors/actresses’ names and birthdays. * A list that stores at least 12 of your favourite movies and release year. * A list that stores at least 12 of your favourite games and release year.  1. Write a Python program that provides the ability to:    1. Create a dictionary from the scenario above    2. Add a value to the dictionary    3. Delete a value from the dictionary    4. Sort all the data in the dictionary in the ascending order. Sort all the data in the dictionary in the descending order.    5. Search for the value in the dictionary asking user for input. 2. Debug and test your program. You must write unit tests to test the functionality specified above. Screenshot your test results. 3. Comment your programs and upload your evidence in compressed format into the Blackboard assessment area. |