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| **Student Name** |  | **Student Number** | |  | | |
| **Unit Code/s & Name/s** | ICTPRG418 - Apply intermediate programming skills in another language | | | | | |
| **Assessment Type** | ☐ Case Study ☒ Assignment ☐ Project ☐ Other *(specify)* | | | | | |
| **Assessment Name** | **Written Assignment**  Programming Assignment 1 – Intro Java | **Assessment Task No.** | | | 1 of 4 | |
| **Assessment Due Date** | Week 9 | **Date submitted** | | |  | |
| **Assessor Name** |  | | | | | |
| **Student Declaration:** I declare that this assessment is my own work. Any ideas and comments made by other people have been acknowledged as references. I understand that if this statement is found to be false, it will be regarded as misconduct and will be subject to disciplinary action as outlined in the TAFE Queensland Student Rules. I understand that by emailing or submitting this assessment electronically, I agree to this Declaration in lieu of a written signature. | | | | | | |
| **Student Signature** |  | | **Date** | | |  |
| **PRIVACY DISCLAIMER:** TAFE Queensland is collecting your personal information for assessment purposes. The information will only be accessed by authorised employees of TAFE Queensland. Some of this information may be given to the Australian Skills Quality Authority (ASQA) or its successor and/or TAFE Queensland for audit and/or reporting purposes. Your information will not be given to any other person or agency unless you have given us written permission or we are required by law. | | | | | | |

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| **Instructions to Student** | **Work, Health and Safety:**  TAFE Queensland student rules are designed to ensure that learners are aware of their rights as well as their responsibilities. All learners are encouraged to familiarise themselves with the TAFE Queensland student rules, specifically as they relate to progress of study and assessment guidelines.  Student rules: <http://tafeqld.edu.au/current-students/student-rules/>  You will be observed by your teacher, when experimenting and working with tools, materials and equipment ensure you follow the TAFE Queensland student rules.  **Materials/resources to be supplied:**   * Access to appropriate computing lab * Access to the internet * Access to word processing, design and graphics applications and programs required to complete the unit assessment   **Learning Support**  Additional support is available to help you achieve your learning goals. Speak to your teacher or a Learning Skills Centre team member if you feel that you may benefit from some extra support. The Institute provides extra support through the Disability Support Unit and the Learning Skills Centre.  RPL (Recognition of Prior Learning) is available for this unit. Speak to your teacher/assessor to check if you qualify for RPL.  **Conditions of Assessment**  You will need to complete the learning and undertake all assessments satisfactorily to be deemed competent. You are responsible for complying with all assessment item instructions; submission and collection requirements; undertaking assessment tasks honestly and retaining a copy of all assessment items.  You must submit assessment items by the **due date**, unless an extension has been granted by your teacher. Failure to submit assessment items by the due date will result in a “did not submit” being recorded and depending on your circumstances, you may be granted one final resubmission.  To be judged competent in this assessment item the student is required to demonstrate competence in all indicators shown in the marking guide.  **The Classroom as a Simulated Work Environment**  Students must be aware and take responsibility for the problems of working in a shared IT environment. Problems such as noise levels, production flow, interruptions and time variances are common to workplaces. In the simulated environment provided in the classroom these problems can take the form of:   * Other students who continually ask questions or talk aloud while thinking * Fire drills, projector not working, printers running out of paper or toner cartridge * Miscalculating how much work you can do in one day, missing classes and so on.   Some things are unavoidable and you must devise strategies to overcome them, for example, we cannot stop students from asking questions or entering at exiting the class. Other things are unpredictable (e.g. fire drills). You need to be aware and plan and organise your work allowing some extra time for unavoidable and unpredicted events.  **Assessment Criteria:**  To achieve a satisfactory result, your assessor will be looking for your ability to demonstrate key skills/tasks/knowledge to an acceptable industry standard.  Refer to the marking criteria document for a detailed list of items.  **Number of Attempts:**  You will receive up to two (2) attempts at this assessment task. Should your 1st attempt be unsatisfactory (U), your teacher will provide feedback and discuss the relevant sections / questions with you and will arrange a due date for the submission of your 2nd attempt. If your 2nd submission is unsatisfactory (U), or you fail to submit a 2nd attempt, you will receive an overall unsatisfactory result for this assessment task. Only one re-assessment attempt may be granted for each assessment task, with the exception of Apprentices or Trainees who are permitted an additional supplementary assessment. **For more information, refer to the Student Rules.** |
| **Submission details** (if relevant) | Submit your assessment to the allocated dropbox in **Connect** or to the allocated network folder.  Your teacher will provide all the details for the submission system or network.  Your assignment must be saved with your surname\_student number\_unit/cluster\_AssessmentNumber. For example:  **surname\_1234567890\_ICTPRG418\_1**  For re-submissions, an “R” must be added to the file name. For example:  **surname\_1234567890\_ ICTPRG418\_1\_R**  The Marking Criteria Sheet must be signed and submitted with your work. |
| **Instructions to Assessor** | To be judged competent in this assessment item the student is required to demonstrate competence in all indicators shown in the marking guide.  Gather evidence to demonstrate consistent performance in conditions that are safe and replicate the workplace. Noise levels, production flow, interruptions and time variances must be typical of those experienced in the programming and software development field of work and include access to:  • software development environment  • technical requirements  **Level of assistance:**  Reasonable adjustments will be made for students as and when appropriate, after consultation with the Disability and Counselling team. |
| **Note to Student** | An overview of all Assessment Tasks relevant to this unit is located in the Unit Study Guide. |

# Instructions to Students

**‘Local Recyclers’ Software Development Assignment**

**Case Study Script and Requirements**

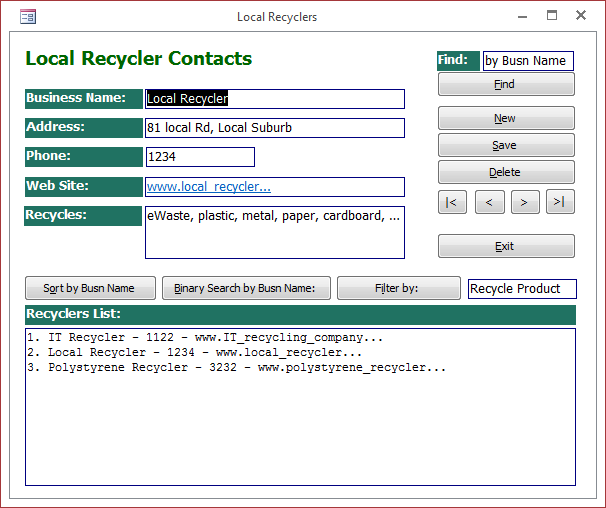
Your employer has asked you to collate a list of local recyclers so that the business can look to recycle current waste items. Your employer has then asked that this list be added to a small Java applications for efficient ongoing data management. The fields to be included in the application are: Business Name (of the recycling business / organisation), Address, Phone, Website, Recycles (notes field of what the organisation recycles).

The aim is to provide your employer and business staff with a facility to quickly locate details of recyclers for specific waste products.

The application will allow the people using the application to:

* **Enter new recycling business details**: Business Name (of the recycling business / organisation), Address, Phone, Website, and what the business Recycles (notes field of what the organisation recycles).
* Use various **navigation buttons**:
* First, last, next and previous record buttons
* A Find button to search for an existing record by Business Name
* Use **New, Save and Delete** buttons.
* **View a list** of recyclers by waste product type.
* Use a second search method for finding an existing record by Business Name, within a sorted Business list, using a binary search.

The application will save and load the Local Recycler data to and from a comma-delimited txt file: **LocalRecyclers.txt**.



**Your tasks:**

Your employer requires this application to:

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| 1.1 | Have appropriate **design and technical documentation**, a test plan, test cases plus the results of testing. The source code is to be supplied and should contain appropriate in-line comments. Your programming should follow your development team’s programming standards. |  |
| 1.2 | **Load** all the current local recycler records from the LocalRecyclers.txt data file on the hard drive (or equivalent). |  |
| 1.3 | **Add** new local recycler records and **Edit** and **View** existing local recycler records - Business Name, Address, Phone, Website, and Recycles (notes field). |  |
| 1.4 | Provide **navigation buttons** and a **search** facility to navigate through the various local recycler records. |  |
| 1.5 | Allow the program user to **save** all the local recycler records back to the hard drive (or equivalent). Save all the records once the program is closed. |  |
| 1.6 | Allow the program user to:   * View a sorted list of local recyclers; and… * To enter a local recycler business name and for the application to quickly search for the name in the sorted list and indicate its current location in the list. |  |
| 1.7 | Allow the program user to enter a recycle **product type** (eg: eWaste) and then present a list of all local recyclers who can recycle the identified product. |  |
| 1.8 | Be provided with a supporting **user manual** appropriately considered and structured. |  |

Additionally, you are required to:

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| 1.9 | **Review your internal and external documentation** for your application. Ensure that it aligns with organisational documentation standards provided, contains correct grammar and spelling, and is appropriate for developers who may provide support to this application in the future. |  |
| 1.10 | Prepare **automated program documentation** using a facility provided within your IDE, or using a separate facility such as Javadoc. |  |
| 1.11 | Provide evidence of your use of the **debugging facilities** with the Integrated Development Environment (IDE) you are utilising. This may be demonstrated with a series of screen images of you debugging your application within your selected IDE – showing at least one breakpoint, a set of associated watches, and you tracing through several lines of code. |  |

**Extension Activities:**

NOTE: The following activities do **not** need to be completed in order for you to demonstrate competence in this assessment activity.

1. **Modularisation**

Look to improve the modularisation (coupling and cohesion) of the different functions currently within your ActionPerformed method. IE: separate out the various functionality into separate methods (or functions).

1. **Application Menu and File Dialog**

Look to add a menu bar at the top of your program that contains a drop-down menu with options to:

* **Close** or Exit the program.
* **Open** and **Save** different data files - using file dialog functionality available within Java.
* Import a second data file and add it to the end of the currently loaded data file. You might label this menu option: **Import Data File**.

1. **Database Link**

Create a second copy of your application, to be linked to a **SQLite database file**:

* Prepare a local recyclers table within an SQLite database.
* Rework your ReadData and WriteData methods to read and write data from and to your SQLite database file.