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| Software DevelopmentUnit 3 Outcome 1Programming PracticeSchool Assessed Coursework (SAC) Part 4 |

 **Outcome statement**

*On completion of this unit, the student should be able to interpret designs and apply a range of functions and techniques using a programming language to develop working modules.*

**Task Conditions**

**Allowed resources:** Teacher-provided designs, open book

**Time allocated to this task:** 2 periods

**Marks allocated:** 20

**Task Outline**

Using the module requirements and provided designs, students are required to produce working software modules. They are also required to test each of their modules to ensure that they function correctly.

**Task Summary**

You are required to produce a folio of modules, using only the provided requirements and designs.

You will need to debug and test the modules and their associated applications to ensure they function as expected and are free of errors, using the test table provided.

The marking scheme can be found on the last page.

**Task 4 Banking problem**

The bank of New England wants to support its customers by alerting them when their credit cards are reaching their credit limit. They propose to send an email to their business clients when their balance is within $1000 of their credit limit.

Because the file contains sensitive customer information your program should provide a login screen with a username and password. For this exercise, use the following.

Username: BankNE

Password: England$

A sample set of data is provided.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Customer Number | Business Name | email | Balance | Credit Limit |
| BA91 | Baywater Inc | Baywater\_Inc@bigpond.com | $3,478.50  | $8,000.00  |
| BE52 | Better Foods | Better\_Foods@bigpond.com | $4920.20  | $5,000.00  |
| CT22 | Certified Temps | Certified\_Temps@bigpond.com | $57.00  | $5,000.00  |
| DE76 | Derben Enterprise | Derben\_Enterprise@bigpond.com | $4,125.00  | $10,000.00  |
| GU63 | Gump Co | Gump\_Co@bigpond.com | $7,822.00  | $8,000.00  |
| GY16 | Gylder-Yansen | Gylder-Yansen@bigpond.com | $3,912.00  | $8,000.00  |
| MN72 | Manross, Inc | Manross\_Inc@bigpond.com | $0.00  | $8,000.00  |
| NG19 | Norton Ghent | Norton\_Ghent@bigpond.com | $7,867.50  | $8,000.00  |
| SO22 | Southwest, Inc | Southwest\_Inc@bigpond.com | $2,336.25  | $10,000.00  |
| SP92 | Samuel A. Port | Samuel A\_ Port@bigpond.com | $9000.00  | $10,000.00  |

Your task is to create an XML file from the above data and save it in the bin folder of your program.

The program should then read the XML file and display the Business name, email address, credit limit and balance of all clients whose balance is $1000 or less than their credit limit.

Design provided



Testing table

|  |  |  |  |
| --- | --- | --- | --- |
| Test | Test Data | Expected output | Actual output |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

Marking Scheme

Each task will be assessed using the provided performance descriptors and table below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **Not shown** | **Low** | **Medium** | **High** |
| Interpretation of provided designs to produce working modules | 0 | 2 | 5 | 8 |
| Data types and structures used | 0 | 2 | 4 | 4 |
| Processing features used | 0 | 1 | 2 | 2 |
| Test data and testing table produced | 0 | 1 | 2 | 3 |
| Internal documentation evident | 0 | 1 | 2 | 3 |
| Subtotal |  |  |  |  |
|   |
| Total | /20 |  |