CCT College Dublin Continuous Assessment

Programme Title:	HDIP in Artificial Intelligence		
Cohort:	September 21 - PT		
Module Title(s):	Programming for AI		
Assignment Type:	Individual	**Weighting(s):**	40%
Assignment Title:	Library System		
Lecturer(s):	Amilcar Aponte (amilca@cct.ie)		
Issue Date:	8th November 2021		
Submission Deadline Date:	18th December 2021 @ 23:59		
Late Submission Penalty:	Late submissions will be accepted up to **5** calendar days after the deadline, Friday, 24th December 2021 @ 23:59. All late submissions are subject to a penalty of **10%** of the mark awarded. Submissions received more than 5 calendar days after the deadline above **will not** be accepted and a mark of 0% will be awarded.		
Method of Submission:	**Moodle**		
Instructions for Submission:	You must submit through Moodle a single ZIP file containing: • Your python source code in .py or .ipynb format. • If you separate your code in multiple files, make sure to include them all in the file. • PDF document that includes the reasoning behind your design choices.		
Feedback Method:	**Results posted in Moodle gradebook**		
Feedback Date:	14th January 2022		

Learning Outcomes:

Attainment of the learning outcomes is the minimum requirement to achieve a Pass mark (40%). Higher marks are awarded where there is evidence of achievement beyond this, in accordance with QQI *Assessment and Standards, Revised 2013*, and summarised in the following table:

Percentage Range	CCT Performance Description	QQI Description of Attainment	
		Level 6, 7 & 8 awards	**Level 9 awards**
90% +	Exceptional	Achievement includes that required for a Pass and in **most** respects is significantly and consistently beyond this	Achievement includes that required for a Pass and in **most** respects is significantly and consistently beyond this
80 – 89%	Outstanding		
70 – 79%	Excellent		
60 – 69%	Very Good	Achievement includes that required for a Pass and in **many** respects is significantly beyond this	Achievement includes that required for a Pass and in **many** respects is significantly beyond this
50 – 59%	Good	Achievement includes that required for a Pass and in **some** respects is significantly beyond this	Attains all the minimum intended programme learning outcomes
40 – 49%	Acceptable	Attains all the minimum intended programme learning outcomes	
35 – 39%	Fail	Nearly (but not quite) attains the relevant minimum intended learning outcomes	Nearly (but not quite) attains the relevant minimum intended learning outcomes
0 – 34%	Fail	Does not attain some or all of the minimum intended learning outcomes	Does not attain some or all of the minimum intended learning outcomes

Please review the CCT Grade Descriptor available on the module Moodle page for a detailed description of the standard of work required for each grade band.

The grading system in CCT is the QQI percentage grading system and is in common use in higher education institutions in Ireland. The pass mark and thresholds for different grade bands may be different from what you have experience of in the higher education system in other countries. CCT grades must be considered in the context of the grading system in Irish higher education and not assumed to represent the same standard the percentage grade reflects when awarded in an international context.

Assessment Task
Students are advised to review and adhere to the submission requirements documented after the assessment task.

A library has come to you as a developer and outlined that currently they do not have any software to track the different titles they have in stock, users of the library and borrowings. They have asked you to develop a system which will allow them to do this. The system will have a backend database (DB) that will engine a Python CLI program. You are required to design and implement the system, including the database and the platform that will manipulate the data in it.

Specific Requirements

- The library system must include the following entities:
    - Book: To model all data relevant to the books. ID, title, author and/or any other piece of information that you consider relevant.
    - Reader: To model all data relevant to the users of the library. ID, name, address and/or any other piece of information that you consider relevant.
- Consider your user to be an employee from the library. After all the data has been loaded, the user should be presented with the following options.
    - Search for a specific book by title and/or author name.
    - List all books by title and/or author name alphabetical order.
    - Search for a specific reader by name and/or ID.
    - List all users by alphabetical and/or ID order.
    - Register that a reader has borrowed a book.
    - Register that a reader has returned a book.
    - For a specific reader, list the books that they have borrowed.
- In order to perform these tasks, you should implement appropriate constructs.
- Your contractor has a cloud database server that you will be given access to. Your database deployment must be done to this server and your program must connect to it in order to perform all its activities. Details of the database server will be provided in due time.
- You will also produce a document where you'll describe the challenges you faced in the development process and your strategies to overcome them as well as the rationale for your design decisions.

Submission Requirements

All assessment submissions must meet the minimum requirements listed below. Failure to do so may have implications for the mark awarded.

All assessment submissions must:

- Include:
  - Your python source code in .py or .ipynb format.
  - If you separate your code in multiple files, make sure to include them all in the file.
  - PDF document that includes the reasoning behind your design choices.
- Run correctly as no debugging will be done.
- Be submitted by the deadline date specified or be subject to late submission penalties.
- Be submitted via Moodle upload.
- Use Harvard Referencing when citing third party material.
- Be the student's own work.
- Include the CCT assessment cover page.

Additional Information

- Comment your code.
- In any situation, the lecturer is entitled to call you in for further explanation of your code.

- Lecturers are not required to review draft assessment submissions. This may be offered at the lecturer's discretion.
- In accordance with CCT policy, feedback to learners may be provided in written, audio or video format and can be provided as individual learner feedback, small group feedback or whole class feedback.
- Results and feedback will only be issued when assessments have been marked and moderated / reviewed by a second examiner.
- Additional feedback may be provided as individual, small group or whole class feedback. Lecturers are not obliged to respond to email requests for additional feedback where this is not the specified process or to respond to further requests for feedback following the additional feedback.
- Following receipt of feedback, where a student believes there has been an error in the marks or feedback received, they should avail of the recheck and review process and should not attempt to get a revised mark / feedback by directly approaching the lecturer. Lecturers are not authorised to amend published marks outside of the recheck and review process or the Board of Examiners process.
- Students are advised that disagreement with an academic judgement is not grounds for review.
- For additional support with academic writing and referencing students are advised to contact the CCT Library Service or access the CCT Learning Space.
- For additional support with subject matter content students are advised to contact the CCT Student Mentoring Academy
- For additional support with IT subject content, students are advised to access the CCT Support Hub.

Marking Scheme Summary

Description	Weighting
Appropriate constructs / Data structures have been used to store the objects in memory (Books, readers, borrowings, etc…). Code is well structured and commented.	10
Appropriate searching to find specific elements in the structure: - Specific book by title and/or author name. - Specific reader by name and/or ID. This is working correctly and is user friendly, including sensible error messages when required and correct interaction with the database. Code is well structured and commented.	25
Appropriate displaying of results in the required order: - All books by title and/or author name alphabetical order. - All readers by alphabetical and/or ID order. This is working correctly and is user friendly, including sensible error messages when required and correct interaction with the database. Code is well structured and commented.	25
Adding new records to the systems works correctly. - New borrowings and returns. This is working correctly. It is user friendly, including sensible error messages when required and correct interaction with the database. Code is well structured and commented.	30
PDF document including explanation of code structure, design justifications and text file structure.	10
TOTAL	**100**