Object Oriented Programming – CA2 – Pair Project

Weight: 15%

Deadline: Monday 4th of December 2017.

Overview

For this assignment, you are required to develop a library application to store items of your choice for example, movies, books, CDs, films, football players, actors, etc. There should be at least two different types of items (e.g. Books and Films). Each item in the library must contain at least four properties. For example, a book might include Title, ISBN, Author, description and genre.

Your application must provide the following basic functionality:

- Add items to the library
- Remove items from the library
- Edit any property of an item in the library
- Search for items in the library. This must allow the user to search by at least two of the properties of the item you have defined. For example, you should be able to search for books by title or author.
- Sort items in the library by any of the items' properties.

When the application first loads, the library should be loaded from a text file. At least two test files must be provided as part of the final submission. When items are changed (Added, Removed or Edited) the text file should be updated to reflect the changes made.

Technical Specification

In your final solution, you must include the following technical elements:

- A custom class to represent items in your library.
- There should be at least 2 sub-classes of this class representing different types of items.
- An appropriate container to store the items (e.g. ArrayList)
- Use of *at least* one built in algorithm (e.g. search or sort).
- A well designed and intuitive user interface
- You should use a Library class to store all of the items and provide functionality to interact with these items.

In addition, marks will be awarded for students who go beyond the basic specification outlined above. Students are free to implement whatever enhancements they wish.

Marking Scheme

- Basic Functionality: - **40%**
- Code Quality: - **20%** (Structure, Maintainability, Efficiency)
- Usability of final application: **10%**
- Additional Features/Wow factor: - **30%**

Submission Requirements

1. Source code must be submitted in the relevant sub-folders inside a single ZIP file through Moodle. The zip file must contain the students name and class group.
2. Each student will be required to attend an interview after the deadline date. Each student will be questioned on the functionality of the code.
3. If an individual fails to perform satisfactorily at interview then a penalty mark will be applied to that student's final grade. Therefore, it is possible for one student in the group to receive full marks while the other student in the group is penalised for a failure to demonstrate an understanding of the submitted work.
4. The assignment must be entirely the work of each student group. Student groups are not permitted to share any pseudocode or source code from their solution with any other individual or group in the class. Students may not distribute the source code of their solution to any student outside of their group in any format (i.e. electronic, verbal, or hardcopy transmission).
5. Plagiarised assignments will receive a mark of zero. This also applies to the individual allowing their work to be plagiarised.
6. Any plagiarism will be reported to the Head of Department and a report will be added to your permanent academic record.
7. Late assignments will only be accepted if accompanied by the appropriate medical note. This documentation must be received within 10 working days of the project deadline. The penalty for late submission is as follows:
    - Marked out of 80% if up to 24 hours late.
    - Marked out of 60% if 24-48 hours late.
    - Marked out of 40% if 48-72 hours late.
    - Marked out of 20% if 72-96 hours late.
    - Marked out of 0%, if over 96 hours late.
8. Each student group must complete and sign a single assignment cover sheet. Please submit the signed cover sheet before 5pm on the Friday of the week of the deadline.