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**Library Management System Code Report**

**Introduction:**

The Library Management System code offers a C++ library system implementation that is simple but effective. It models the entities and functions of a library by using a collection of classes, such as Person, Member, Book, and Library. Adding members, borrowing and returning books, displaying borrowed books, generating penalties, and other features are all included in the code.

Classes:

1. Person Class:

* Contains information such as name, address, and email to represent an unidentified individual.
* This is the Member basic class.

1. Member Class:

* Based on Person, it adds a memberID and a vector books to the basic class.to keep track of books that are borrowed.
* offers ways to return and borrow books, as well as access and modify member information.

1. Book Class

* represents a book with data including bookName, bookID, and author details.
* handles book borrowing as well as return functions.

1. Library Class

* manages member and book vectors and coordinates the operation of the whole library system.
* carries out tasks like creating new members, sending and receiving books, displaying borrowed books, generating penalties, and collecting information from a file.

Main Function

* opens a CSV file called "Excel.csv" containing book information that is initialised into a Library object.
* Offers a command-line interface for users to interact with the library system.

File Input

* opens a CSV file with book details, making it easier to populate the library's book collection initially.

User interface

* The **getChoice** function asks users to provide input based on a list of choices.
* **Main** function utilizes a switch case to execute the chosen functionality.

**Diagrams**

User Case

A diagram of a user flow

Description automatically generated

Class Diagram

A diagram of a computer code

Description automatically generated with medium confidence

Activity diagram

A diagram of a group of text

Description automatically generated

**Conclusion:**

In conclusion, the code for the Library Management System offers a helpful structure for C++ task management in libraries. The code is easy to comprehend because of the obvious structure created by the usage of classes like Person, Member, Book, and Library.

Time management is one obvious issue that needs improvement. Even though I overcame obstacles and created a workable library management system, I recognise that more productivity may be achieved via more effective time management.

**Link to my Video Presentation**

Please copy and paste the link below on chrome or Microsoft edge if it doesn’t open from here.

<https://clipchamp.com/watch/8joYUGA2X6h>