ASSIGNMENT SUBMISSION

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| SUBJECT NAME | OBJECT ORIENTED PROGRAM |
| SUBJECT CODE | CS23312 |
| ASSIGNMENT | 1 |

QUESTION

Demonstrate object creation, method calls, and field updates in a main method using Book and Member.

AIM

To demonstrate object creation, method calls, and field updates in a main method using Book and Member.

ALGORITHM

1. **Define Book class** with fields like title, author, and isIssued.
2. **Define Member class** with fields like name and a method to issue a book.
3. In the Member class, create a method issueBook(Book b) that updates the book's isIssued status.
4. In the main() method:

* Create Book and Member objects.
* Call methods to issue books.
* Update and display field values to show changes.

JAVA PROGRAM

class Book {

String title;

String author;

boolean isIssued;

// Constructor

Book(String title, String author) {

this.title = title;

this.author = author;

this.isIssued = false;

}

// Method to display book info

void displayInfo() {

System.out.println("Title: " + title + ", Author: " + author + ", Issued: " + isIssued);

}

}

class Member {

String name;

// Constructor

Member(String name) {

this.name = name;

}

// Method to issue a book

void issueBook(Book b) {

if (!b.isIssued) {

b.isIssued = true;

System.out.println(name + " issued the book: " + b.title);

} else {

System.out.println("Sorry, " + b.title + " is already issued.");

}

}

}

public class LibraryDemo {

public static void main(String[] args) {

// Object creation

Book book1 = new Book("1984", "George Orwell");

Book book2 = new Book("The Alchemist", "Paulo Coelho");

Member member1 = new Member("Alice");

Member member2 = new Member("Bob");

// Method calls and field updates

book1.displayInfo();

member1.issueBook(book1);

book1.displayInfo();

member2.issueBook(book1); // Trying to issue already issued book

member2.issueBook(book2); // Issuing another book

book2.displayInfo();

}

}

**OUTPUT**

Title: 1984, Author: George Orwell, Issued: false

Alice issued the book: 1984

Title: 1984, Author: George Orwell, Issued: true

Sorry, 1984 is already issued.

Bob issued the book: The Alchemist

Title: The Alchemist, Author: Paulo Coelho, Issued: true

**RESULT**

* **Object Creation**: Book and Member objects are created using constructors.
* **Method Calls**: issueBook() and displayInfo() are invoked to perform actions.
* **Field Updates**: The isIssued field in Book is updated when a member issues a book.
* The program successfully demonstrates how classes interact and how object state changes over time.



