**Management System**

**1.Design a Java program that uses OOP principles to model the Book. Create two classes: Book and Library. The Book class should have attributes such as bookID, title, author, and isAvailable, The Library class should include an array to store book objects.**

**2. Provide methods to add books, remove book search books (using id)and display books. Write a Java program that demonstrates the use of these classes and methods by allowing the user to interact with the library system  
  
OUTPUT:**Library Management System:

1. Add Book

2. Replace Book

3. Search Book

4. Display All Books

5. Exit

Enter your choice: 1

Enter Book ID: 101

Enter Book Title: The Great Gatsby

Enter Book Author: F. Scott Fitzgerald

Book added successfully!

Enter your choice: 4

Displaying All Books:

Book ID: 101, Title: The Great Gatsby, Author: F. Scott Fitzgerald, Available: Yes

Enter your choice: 2

Enter Book ID to Replace: 101

Enter New Title: The Gatsby Chronicles

Enter New Author: F. Fitzgerald

Book updated successfully!

Enter your choice: 4

Displaying All Books:

Book ID: 101, Title: The Gatsby Chronicles, Author: F. Fitzgerald, Available: Yes  
  
  
  
**2.Create Interface Taxable with members sales Tax=7% and income Tax=10.5%. create abstract method calcTax().**

**a. Create class Employee(empId,name, salary) and implement Taxable to calculate income Tax on yearly salary.**

**b. Create class Product(pid, price,quantity) and implement Taxable to calculate sales Tax on unit price of product. c. Create class for main method(Say DriverMain), accept employee information and a product information from user and print income tax and sales tax respectively  
  
  
OUTPUT:**Input:

yaml

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Enter Employee Details:

Employee ID: 101

Name: Alice

Monthly Salary: 5000

Enter Product Details:

Product ID: 201

Price: 150.75

Quantity: 10

Output:

mathematica

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Employee Information:

Employee{empId=101, name='Alice', salary=5000.0}

Income Tax: 6300.00

Product Information:

Product{pid=201, price=150.75, quantity=10}

Sales Tax (per unit): 10.55