

Code Execution Screenshots

1) Main Menu

```
=====
|                                     SMART LIBRARY MANAGEMENT SYSTEM                                     |
=====
| Option | Action |
=====
| 1      | Display All Books |
| 2      | Display All Members |
| 3      | Issue Book |
| 4      | Return Book |
| 5      | Generate Overdue Report |
| 6      | Display Recent Transactions |
| 7      | Generate Book Status Report |
| 8      | Sort Books by ID |
| 0      | Exit |
=====
Enter your choice:
```

2) Display All books

```
=====
|                                     LIBRARY BOOKS (5)                                     |
=====
| Book ID | Title | Author | Status |
=====
| B001 | The C++ Programming Language | Bjarne Stroustrup | Available |
| B002 | Data Structures Using C++ | D.S. Malik | Available |
| B003 | Design Patterns | Erich Gamma et al. | Available |
| EB001 | Clean Code | Robert C. Martin | Available |
| J001 | IEEE Software | IEEE | Available |
=====
```

3) Display All Members

```
=====
|                                     LIBRARY MEMBERS (2)                                     |
=====
| Member ID | Name | Contact Info | Books Issued |
=====
| M001 | John Doe | john@example.com | 0/3 |
| M002 | Jane Smith | jane@example.com | 0/3 |
=====
```

4) Issue Book

```
Enter your choice: 3
Enter Member ID: M001
Enter Book ID: J001
Book issued successfully!
| T1001 | M001 | J001 | Sun May 04 02:38:58 2025 | Not returned yet | N/A |
```

5) Return Book

```
Enter your choice: 4
Enter Member ID: M001
Enter Book ID: J001
Book returned successfully!
| T1001 | M001 | J001 | Sun May 04 02:38:58 2025 | Sun May 04 02:39:51 2025 | Rs. 0 |
This book has a reservation. Processing...
Book issued successfully!
| T1002 | M001 | J001 | Sun May 04 02:39:51 2025 | Not returned yet | N/A |
```

6) Display Recent Transactions

```
=====
Enter your choice: 6

===== RECENT TRANSACTIONS =====
| T1002 | M001 | J001 | Sun May 04 02:39:51 2025 | Not returned yet | N/A |
-----
| T1001 | M001 | J001 | Sun May 04 02:38:58 2025 | Sun May 04 02:39:51 2025 | Rs. 0 |
-----
| T1001 | M001 | J001 | Sun May 04 02:38:58 2025 | Sun May 04 02:39:51 2025 | Rs. 0 |
-----
```

7) Generate Book Status Report

```
Enter your choice: 7

===== BOOK STATUS REPORT =====
Book ID Title      Status
-----
B001   The C++ Programming Language   Available
B002   Data Structures Using C++      Available
B003   Design Patterns                 Available
EB001  Clean Code                         Available
J001   IEEE Software                     Issued
-----

Total Books: 5
Available: 4
Issued: 1
```

8) Sort Books by ID

```
-----
Enter your choice: 8
Books sorted by ID.
```

9) Exit

```
Enter your choice: 0
Thank you for using the Smart Library Management System!
```