

**User Manual &
Test Case Result
Library Management System
by Kan Man Heen
(20608314)**

User Manual

1. Getting Started

1) Making Sure Everything Is installed

```
≡ books.txt
≡ borrowed_books.txt
C library.c
≡ penalty_fee.txt
≡ returned_books.txt
≡ students.txt
```

Make sure the above txt and c source file are installed and opened in your folder.

2) Compile the c source file into exe file

```
≡ books.txt
≡ borrowed_books.txt
C library.c
≡ library.exe
≡ penalty_fee.txt
≡ returned_books.txt
≡ students.txt
```

Compile the library.c source file into library.exe for it to be runned.

2. Log In Page

```
=====
===== 2023-11-30 Welcome To Library =====
=====

(1) Student
(2) Staff
(3) Exit

Choice : █
```

Enter a number associated to log in as Student or Staff or exit the library management system.

2.1. Login as a Student (Press 1 and Enter)

```
=====
===== Student Log In =====
=====

Log in to your student account
ID : 4829137
Name : Emma█
```

After entering 1 and waiting for 1 second, you will be prompted to the Student Log In Page, where you need to enter your student ID and name.

Student ID and Name Listed below:

Student ID	Student Name	Student ID	Student Name
4829137	Emma	9362458	Jackson
7650248	Liam	2103746	Ava
3098715	Olivia	6548201	Lucas
5246893	Noah	3784926	Isabella
1875032	Sophia	5018367	Aiden

2.2. Login as a Staff (Press 2 and Enter)

```
=====
===== Staff Log In =====
=====

Log in to staff account
ID : 12345
Password : Admin█
```

After entering 2 and waiting for 1 second, you will be prompted to the Staff Log In Page, where you need to enter staff ID (12345) and Password (Admin).

2.3. Exit Library Management System (Press 3 and Enter)

```
Thank you for using the Library Management System.
Have a great day and happy reading!
```

After entering 2 and waiting for 1 second, you will have exited the Library Management System.

3. Student Main Page

```
=====
===== Student Main Page =====
=====

----- Hello Emma -----

(1) Search Books
(2) Display All Books
(3) Calculate Late Return Fee
(4) Log Out

What would you like to do today?
Choice : █
```

After entering the correct associated student ID and name, you will be prompted to the Student Main Page.

4. Staff Main Page

```
=====
===== Staff Main Page =====
=====

(1) Search Books
(2) Student Borrow Book
(3) Student Return Book
(4) Display All Books
(5) Calculate Late Return Fee
(6) Generate Monthly Report
(7) Log Out

What would you like to do today?
Choice : █
```

After entering the correct staff ID and Password, you will be prompted to the Staff Main Page.

5. Search Book (Student/Librarian)

```
=====
===== Search Book Page =====
=====

(1) Search Book
(2) Exit Back

Choice : █
```

Entering the Search Book Page, you will be instructed to enter 1 to Search Book or 2 to Exit Back.

Instructions:

1) Enter correct ISBN for the associated book and press enter.

```
=====
===== Search Book Page =====
=====

(1) Search Book
(2) Exit Back

Choice : 1
ISBN : 9781603094917

>>>> Found Book <<<<

Title : Monster on the Hill
Author : Rob Harrell
ISBN : 9781603094917
Year of Publication : 2020
Total Copies : 5
Total Copies Available For Borrow : 5
```

2) If found book, the title, author, ISBN, year of publication, total copies and total copies available for borrow will be displayed on the terminal.

3) After searching, you can choose to search another book or Exit Back.

6. Borrow Book (Librarian)

```
=====
===== Borrow Book Page =====
=====

(1) Student Borrow Book
(2) Borrow Book Record
(3) Exit Back

Choice : █
```

Entering the Borrow Book Page, you will be instructed to enter 1 to Student Book Book or 2 to Borrow Book Record or 3 to Exit Back.

6.1. Student Borrow Book (Press 1 and Enter)

1) After entering 1 on the Borrow Book Page, enter the associated Student ID (Student Borrowing) and Borrow Book ISBN.

```
=====
===== Borrow Book Page =====
=====

(1) Student Borrow Book
(2) Borrow Book Record
(3) Exit Back

Choice : 1
Student ID : 7650248
Book ISBN : 9781603094917

Borrow successful! Please remind Liam to return on time.
Enter once to exit back
█
```

6.2. Borrow Book Record (Press 2 and Enter)

1) After entering 2 on the Borrow Book Page, the newest entry for the information of the borrowed book will be available.

```
=====
===== Borrow Book Record =====
=====

Book 1:
Student ID: 5246893
Student Name : Noah
ISBN: 9781603094672
Title: Kodi
Borrowed Date: 2023-11-20

Book 2:
Student ID: 1875032
Student Name : Sophia
ISBN: 9781612680019
Title: Rich Dad Poor Dad
Borrowed Date: 2023-11-15

Book 3:
Student ID: 2103746
Student Name : Ava
ISBN: 9781603090742
Title: The Underwater Welder
Borrowed Date: 2023-11-30

Book 4:
Student ID: 7650248
Student Name : Liam
ISBN: 9781603094917
Title: Monster on the Hill
Borrowed Date: 2023-11-30

Enter once to exit back
█
```

7. Returned Book (Librarian)

```
=====
===== Return Book Page =====
=====

(1) Student Return Book
(2) Return Book Record
(3) Exit Back

Choice : █
```

Entering the Return Book Page, you will be instructed to enter 1 to Student Return Book or 2 to Return Book Record or 3 to Exit Back.

7.1. Student Return Book (Press 1 and Enter)

1) After entering 1 on the Return Book Page, enter the associated Student ID (Student Borrowing) and Borrowed Book ISBN. System will collect penalty fee if student returns the book latter than 5 days.

```
=====
===== Return Book Page =====
=====

(1) Student Return Book
(2) Return Book Record
(3) Exit Back

Choice : 1
Student ID : 1875032
Borrowed book ISBN : 9781612680019

Return successful! Remember to collect RM10 thanks Sophia for returning the book.
Enter once to exit back
█
```

7.2. Return Book Record (Press 2 and Enter)

1) After entering 2 on the Return Book Page, the newest entry for the information of the borrowed book will be available.

<pre>===== ===== Return Book Record ===== ===== Book 1: Student ID: 7650248 Student Name : Liam ISBN: 9781603094894 Title: Onion Skin Returned Date: 2023-11-28 Book 2: Student ID: 9362458 Student Name : Jackson ISBN: 9780307949493 Title: The Girl with the Dragon Tattoo Returned Date: 2023-11-28</pre>	<pre>Book 3: Student ID: 1875032 Student Name : Sophia ISBN: 9781612680019 Title: Rich Dad Poor Dad Returned Date: 2023-11-30 Enter once to exit back █</pre>
---	--

8. Display All Books (Students/Librarian)

```
=====
----- Display Book Page -----
=====

1)
Title of Book : All About Danny
Author of Book : Mia Coulton
ISBN of Book : 9780972029537
Year of Publication of Book : 1975
Total copies of Book : 5
Total copies available for borrow of Book : 5

2)
Title of Book : Junkwraith
Author of Book : Ellinor Richey
ISBN of Book : 9781603095006
Year of Publication of Book : 2022
Total copies of Book : 5
Total copies available for borrow of Book : 5

3)
Title of Book : Kodi
Author of Book : Jared Cullum
ISBN of Book : 9781603094672
Year of Publication of Book : 2020
Total copies of Book : 5
Total copies available for borrow of Book : 4

4)
Title of Book : Monster on the Hill
Author of Book : Rob Harrell
ISBN of Book : 9781603094917
Year of Publication of Book : 2020
Total copies of Book : 5
Total copies available for borrow of Book : 4

5)
Title of Book : Onion Skin
Author of Book : Edgar Camacho
ISBN of Book : 9781603094894
Year of Publication of Book : 2021
Total copies of Book : 5
Total copies available for borrow of Book : 5

6)
Title of Book : Rich Dad Poor Dad
Author of Book : Kiyosaki Robert T
ISBN of Book : 9781612680019
Year of Publication of Book : 2017
Total copies of Book : 5
Total copies available for borrow of Book : 5

7)
Title of Book : Rivers
Author of Book : Cassandra Moon
ISBN of Book : 7890123456
Year of Publication of Book : 2015
Total copies of Book : 5
Total copies available for borrow of Book : 5

8)
Title of Book : The Fun Family
Author of Book : Benjamin Frisch
ISBN of Book : 9781603093446
Year of Publication of Book : 2021
Total copies of Book : 5
Total copies available for borrow of Book : 5

9)
Title of Book : The Girl with the Dragon Tattoo
Author of Book : Stieg Larsson
ISBN of Book : 9780307949493
Year of Publication of Book : 2003
Total copies of Book : 5
Total copies available for borrow of Book : 5

10)
Title of Book : The Underwater Welder
Author of Book : Jeff Lemire
ISBN of Book : 9781603090742
Year of Publication of Book : 2007
Total copies of Book : 5
Total copies available for borrow of Book : 4

Enter once to exit back
█
```

Entering Display All Books Page, will display every books and its' information (title, author, ISBN, total copies, total copies available for borrow) in alphabetical order according to the title.

9. Calculate Late Return Fee (Students/Librarian)

```
=====
===== Panalty Checker Page =====
=====

(1) Penalty Checker
(2) Exit Back

Choice : █
```

Entering the Penalty Checker Page, you will be instructed to enter 1 to Penalty Checker or 2 to Exit Back.

9.1. Penalty Checker

1) After entering 1, enter the associated Student ID (Student Returning) and Borrowed Book ISBN. Late return fees (if latter than 5 days from Borrowed Date) will be calculated and display after the Found Borrowed Book details.

```
=====
===== Panalty Checker Page =====
=====

(1) Penalty Checker
(2) Exit Back

Choice : 1
Student ID : 5246893
Borrowed book ISBN : 9781603094672

>>>> Found Borrowed Book <<<<

Student ID: 5246893
Student Name : Noah
ISBN: 9781603094672
Title: Kodi
Borrowed Date: 2023-11-20

RM 6 will be charged for late return.
```

10. Generate Monthly Report (Librarian)

1) Generate Monthly Report by pressing 6

```
=====
===== Staff Main Page =====
=====

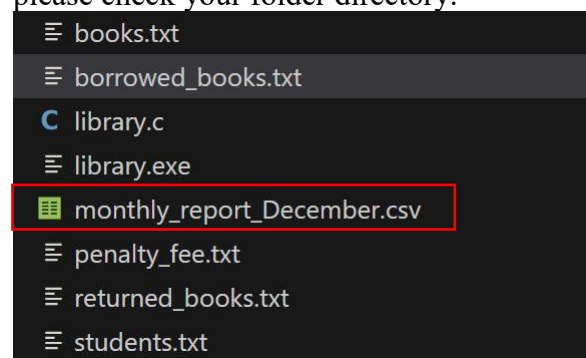
(1) Search Books
(2) Student Borrow Book
(3) Student Return Book
(4) Display All Books
(5) Calculate Late Return Fee
(6) Generate Monthly Report
(7) Log Out

What would you like to do today?
Choice : 6

Successfully generated a monthly report csv file! Please check your folder located in the directory

Enter once to exit back
█
```

2) System will generate a monthly report (csv) according to the current monthly, please check your folder directory.



3) Open it with Microsoft Excel or WPS Office to view the report.

1	2023 December Monthly Report		
2			
3	Total Number Of Books Borrowed :		6
4	Student ID	ISBN	
5	5246893	"9781603094672"	
6	2103746	"9781603090742"	
7	7650248	"9781603094917"	
8	7650248	"9781603094894"	
9	9362458	"9780307949493"	
10	1875032	"9781612680019"	
11			
12	Total Number Of Books To Be Returned :		3
13	Borrowed Date	Student ID	ISBN
14	20/11/2023	5246893	"9781603094672"
15	30/11/2023	2103746	"9781603090742"
16	30/11/2023	7650248	"9781603094917"
17			
18	Total Number Of Books Returned :		3
19	Returned Date	Student ID	ISBN
20	28/11/2023	7650248	"9781603094894"
21	28/11/2023	9362458	"9780307949493"
22	30/11/2023	1875032	"9781612680019"
23			
24	Total Penalty Collected :		23
25	Fine Date	Student ID	Fines (RM)
26	28/11/2023	7650248	3
27	30/11/2023	1875032	10
28	30/11/2023	1875032	10

Test Case Result

Student Log In

```
=====
===== 2023-12-01 Welcome To Library =====
=====

(1) Student
(2) Staff
(3) Exit

Choice : 1
```

Student Log In Page

Case 1: Both ID and ISBN are Valid.

```
=====
===== Student Log In =====
=====

Log in to your student account
ID : 4829137
Name : Emma
```

Will directly log in

```
=====
===== Student Main Page =====
=====

----- Hello Emma -----

(1) Search Books
(2) Display All Books
(3) Calculate Late Return Fee
(4) Log Out

What would you like to do today?
Choice :
```

Case 2: Either ID or ISBN or both is Invalid

<pre>===== ===== Student Log In ===== ===== Log in to your student account ID : 4829137 Name : Liam Student ID or Username incorrect. Would you like to try again? Try Again(1) or Exit to main menu(2) :</pre>	<pre>===== ===== Student Log In ===== ===== Log in to your student account ID : 7650248 Name : Emma Student ID or Username incorrect. Would you like to try again? Try Again(1) or Exit to main menu(2) :</pre>
--	--

Student Main Page

```
=====
===== Student Main Page =====
=====

----- Hello Emma -----

(1) Search Books
(2) Display All Books
(3) Calculate Late Return Fee
(4) Log Out

What would you like to do today?
Choice : █
```

Main Function

Search Books

Case 1: Valid ISBN

```
=====
===== Search Book Page =====
=====

(1) Search Book
(2) Exit Back

Choice : 1
ISBN : 9781603093446

>>>>> Found Book <<<<<

Title : The Fun Family
Author : Benjamin Frisch
ISBN : 9781603093446
Year of Publication : 2021
Total Copies : 5
Total Copies Available For Borrow : 5
```

Case 2: Invalid ISBN

```
=====
===== Search Book Page =====
=====

(1) Search Book
(2) Exit Back

Choice : 1
ISBN : 1231231312

Error! Invalid ISBN! Please try again
```


Display All Books

Case 1: Successfully display all books

```
=====
===== Display Book Page =====
=====

1)
Title of Book : All About Danny
Author of Book : Mia Coulton
ISBN of Book : 9780972029537
Year of Publication of Book : 1975
Total copies of Book : 5
Total copies available for borrow of Book : 5

2)
Title of Book : Junkwraith
Author of Book : Ellinor Richey
ISBN of Book : 9781603095006
Year of Publication of Book : 2022
Total copies of Book : 5
Total copies available for borrow of Book : 5

3)
Title of Book : Kodi
Author of Book : Jared Cullum
ISBN of Book : 9781603094672
Year of Publication of Book : 2020
Total copies of Book : 5
Total copies available for borrow of Book : 4

4)
Title of Book : Monster on the Hill
Author of Book : Rob Harrell
ISBN of Book : 9781603094917
Year of Publication of Book : 2020
Total copies of Book : 5
Total copies available for borrow of Book : 5

5)
Title of Book : Onion Skin
Author of Book : Edgar Camacho
ISBN of Book : 9781603094894
Year of Publication of Book : 2021
Total copies of Book : 5
Total copies available for borrow of Book : 5
```

```
6)
Title of Book : Rich Dad Poor Dad
Author of Book : Kiyosaki Robert T
ISBN of Book : 9781612680019
Year of Publication of Book : 2017
Total copies of Book : 5
Total copies available for borrow of Book : 4

7)
Title of Book : Rivers
Author of Book : Cassandra Moon
ISBN of Book : 7890123456
Year of Publication of Book : 2015
Total copies of Book : 5
Total copies available for borrow of Book : 5

8)
Title of Book : The Fun Family
Author of Book : Benjamin Frisch
ISBN of Book : 9781603093446
Year of Publication of Book : 2021
Total copies of Book : 5
Total copies available for borrow of Book : 5

9)
Title of Book : The Girl with the Dragon Tattoo
Author of Book : Stieg Larsson
ISBN of Book : 9780307949493
Year of Publication of Book : 2003
Total copies of Book : 5
Total copies available for borrow of Book : 5

10)
Title of Book : The Underwater Welder
Author of Book : Jeff Lemire
ISBN of Book : 9781603090742
Year of Publication of Book : 2007
Total copies of Book : 5
Total copies available for borrow of Book : 4

Enter once to exit back
█
```

Calculate Late Return Fee

Case 1: Valid Student ID and Borrowed Book ISBN (not latter than 5 days)

```
=====
===== Panalty Checker Page =====
=====

(1) Penalty Checker
(2) Exit Back

Choice : 1
Student ID : 2103746
Borrowed book ISBN : 9781603090742

>>>>> Found Borrowed Book <<<<<

Student ID: 2103746
Student Name : Ava
ISBN: 9781603090742
Title: The Underwater Welder
Borrowed Date: 2023-11-30

Currently no penalty will be charged.
```

Case 2: Valid Student ID and Borrowed Book ISBN (latter than 5 days)

```
=====
===== Panalty Checker Page =====
=====

(1) Penalty Checker
(2) Exit Back

Choice : 1
Student ID : 1875032
Borrowed book ISBN : 9781612680019

>>>>> Found Borrowed Book <<<<<

Student ID: 1875032
Student Name : Sophia
ISBN: 9781612680019
Title: Rich Dad Poor Dad
Borrowed Date: 2023-11-15

RM 11 will be charged for late return.
```

Case 3: Either Student ID or Borrowed Book ISBN or both invalid

=====	=====
===== Panalty Checker Page =====	===== Panalty Checker Page =====
=====	=====
(1) Penalty Checker	(1) Penalty Checker
(2) Exit Back	(2) Exit Back
Choice : 1	Choice : 1
Student ID : 123213	Student ID : 1875032
Borrowed book ISBN : 9781603090742	Borrowed book ISBN : 11111111
No student ID or ISBN found in borrowed book database.	No student ID or ISBN found in borrowed book database.

Log Out

```
=====
===== 2023-12-01 Welcome To Library =====
=====

(1) Student
(2) Staff
(3) Exit

Choice : █
```

Staff Log In

```
=====
===== 2023-12-01 Welcome To Library =====
=====

(1) Student
(2) Staff
(3) Exit

Choice : 2█
```

Staff Log In Page

Case 1: Both ID and ISBN are Valid.

```
=====
===== Staff Log In =====
=====

Log in to staff account
ID : 12345
Password : Admin█
```

Will directly log in

```
=====
===== Staff Main Page =====
=====

(1) Search Books
(2) Student Borrow Book
(3) Student Return Book
(4) Display All Books
(5) Calculate Late Return Fee
(6) Generate Monthly Report
(7) Log Out

What would you like to do today?
Choice : █
```

Case 2: Either ID or ISBN or both is Invalid

```
=====
===== Staff Log In =====
=====

Log in to staff account
ID : 12345
Password : Lmao

Staff ID or Password incorrect. Would you like to try again?
Try Again(1) or Exit to main menu(2) : █

=====
===== Staff Log In =====
=====

Log in to staff account
ID : 678910
Password : Admin

Staff ID or Password incorrect. Would you like to try again?
Try Again(1) or Exit to main menu(2) : █
```

Staff Main Page

```
=====
===== Staff Main Page =====
=====

(1) Search Books
(2) Student Borrow Book
(3) Student Return Book
(4) Display All Books
(5) Calculate Late Return Fee
(6) Generate Monthly Report
(7) Log Out

What would you like to do today?
Choice : █
```

Main Function

Search Books

Case 1: Valid ISBN

```
=====
===== Search Book Page =====
=====

(1) Search Book
(2) Exit Back

Choice : 1
ISBN : 9781603093446

>>>>> Found Book <<<<<

Title : The Fun Family
Author : Benjamin Frisch
ISBN : 9781603093446
Year of Publication : 2021
Total Copies : 5
Total Copies Available For Borrow : 5
```

Case 2: Invalid ISBN

```
=====
===== Search Book Page =====
=====

(1) Search Book
(2) Exit Back

Choice : 1
ISBN : 1231231312

Error! Invalid ISBN! Please try again
```

Student Borrow Book (Librarian)

Case 1: Student ID and Book ISBN is Valid

```
=====
===== Borrow Book Page =====
=====

(1) Student Borrow Book
(2) Borrow Book Record
(3) Exit Back

Choice : 1
Student ID : 4829137
Book ISBN : 9780307949493

Borrow successful! Please remind Emma to return on time.
Enter once to exit back
█
```

New entries will be made into the borrowed book.txt

1	5246893	1	5246893
2	9781603094672	2	9781603094672
3	Kodi	3	Kodi
4	2023-11-20	4	2023-11-20
5		5	
6	1875032	6	1875032
7	9781612680019	7	9781612680019
8	Rich Dad Poor Dad	8	Rich Dad Poor Dad
9	2023-11-15	9	2023-11-15
10		10	
11	2103746	11	2103746
12	9781603090742	12	9781603090742
13	The Underwater Welder	13	The Underwater Welder
14	2023-11-30	14	2023-11-30
15		15	
16	4829137	16	4829137
17	9780307949493	17	9780307949493
18	The Girl with the Dragon Tattoo	18	The Girl with the Dragon Tattoo
19	2023-12-01	19	2023-12-01
20		20	

57	The Girl with the Dragon Tattoo	57	The Girl with the Dragon Tattoo
58	Stieg Larsson	58	Stieg Larsson
59	9780307949493	59	9780307949493
60	2003	60	2003
61	5	61	5
62	5	62	4

Case 2: Total copies of book Unavailable

```
=====
===== Borrow Book Page =====
=====
```

- (1) Student Borrow Book
- (2) Borrow Book Record
- (3) Exit Back

Choice : 1

Student ID : 7650248

Book ISBN : 9780972029537

No extra copies of All About Danny is available. Please borrow other books.



No copies of book available

1	All About Danny
2	Mia Coulton
3	9780972029537
4	1975
5	5
6	0

No new entries will be made into the borrowed book.txt

1	5246893
2	9781603094672
3	Kodi
4	2023-11-20
5	
6	1875032
7	9781612680019
8	Rich Dad Poor Dad
9	2023-11-15
10	
11	2103746
12	9781603090742
13	The Underwater Welder
14	2023-11-30
15	
16	4829137
17	9780307949493
18	The Girl with the Dragon Tattoo
19	2023-12-01
20	
21	

Case 3: Either Student ID or Book ISBN or both is Invalid

```
=====
===== Borrow Book Page =====
=====

(1) Student Borrow Book
(2) Borrow Book Record
(3) Exit Back

Choice : 1
Student ID : 12345
Book ISBN : 9781603094894
Student ID or ISBN incorrect. Please try again.
```

Check Borrow Book Record (Librarian)

Case 1: Newest Entries will be successfully displayed.

```
=====
===== Borrow Book Record =====
=====

Book 1:
Student ID: 5246893
Student Name : Noah
ISBN: 9781603094672
Title: Kodi
Borrowed Date: 2023-11-20

Book 2:
Student ID: 1875032
Student Name : Sophia
ISBN: 9781612680019
Title: Rich Dad Poor Dad
Borrowed Date: 2023-11-15

Book 3:
Student ID: 2103746
Student Name : Ava
ISBN: 9781603090742
Title: The Underwater Welder
Borrowed Date: 2023-11-30

Book 4:
Student ID: 4829137
Student Name : Emma
ISBN: 9780307949493
Title: The Girl with the Dragon Tattoo
Borrowed Date: 2023-12-01

Enter once to exit back
█
```

Student Return Book (Librarian)

~Will charge late return fee if book returned latter than 5 days from borrowed date.

Case 1: Student ID and Book ISBN is Valid (No Penalty)

System will not remind librarian to collect penalty fee from student.

```
=====
===== Return Book Page =====
=====

(1) Student Return Book
(2) Return Book Record
(3) Exit Back

Choice : 1
Student ID : 4829137
Borrowed book ISBN : 9780307949493

Return successful! Remember to thank Emma for returning the book.
Enter once to exit back
█
```

The previous entry on borrowed book.txt will be removed.

1	5246893	1	5246893
2	9781603094672	2	9781603094672
3	Kodi	3	Kodi
4	2023-11-20	4	2023-11-20
5		5	
6	1875032	6	1875032
7	9781612680019	7	9781612680019
8	Rich Dad Poor Dad	8	Rich Dad Poor Dad
9	2023-11-15	9	2023-11-15
10		10	
11	2103746	11	2103746
12	9781603090742	12	9781603090742
13	The Underwater Welder	13	The Underwater Welder
14	2023-11-30	14	2023-11-30
15		15	
16	4829137	16	
17	9780307949493		
18	The Girl with the Dragon Tattoo		
19	2023-12-01		
20			
21			

A new entry will be made into returned_book.txt after successfully returning the book.

1	7650248	1	7650248
2	9781603094894	2	9781603094894
3	Onion Skin	3	Onion Skin
4	2023-11-28	4	2023-11-28
5		5	
6	9362458	6	9362458
7	9780307949493	7	9780307949493
8	The Girl with the Dragon Tattoo	8	The Girl with the Dragon Tattoo
9	2023-11-28	9	2023-11-28
10		10	
		11	4829137
		12	9780307949493
		13	The Girl with the Dragon Tattoo
		14	2023-12-01
		15	

Total copies available for borrow will be added back 1.

57	The Girl with the Dragon Tattoo	57	The Girl with the Dragon Tattoo
58	Stieg Larsson	58	Stieg Larsson
59	9780307949493	59	9780307949493
60	2003	60	2003
61	5	61	5
62	4	62	5

Case 2: Student ID and Book ISBN is Valid (Got Penalty)

System will remind librarian to collect penalty fee from student.

```

=====
===== Return Book Page =====
=====

(1) Student Return Book
(2) Return Book Record
(3) Exit Back

Choice : 1
Student ID : 1875032
Borrowed book ISBN : 9781612680019

Return successfull! Remember to collect RM11 thanks Sophia for returning the book.
Enter once to exit back
█

```

The previous entry on borrowed_book.txt will be removed.

1	5246893	1	5246893
2	9781603094672	2	9781603094672
3	Kodi	3	Kodi
4	2023-11-20	4	2023-11-20
5		5	
6	1875032	6	2103746
7	9781612680019	7	9781603090742
8	Rich Dad Poor Dad	8	The Underwater Welder
9	2023-11-15	9	2023-11-30
10		10	
11	2103746	11	
12	9781603090742		
13	The Underwater Welder		
14	2023-11-30		
15			

A new entry will be made into returned book.txt after successfully returning the book.

1	7650248	1	7650248
2	9781603094894	2	9781603094894
3	Onion Skin	3	Onion Skin
4	2023-11-28	4	2023-11-28
5		5	
6	9362458	6	9362458
7	9780307949493	7	9780307949493
8	The Girl with the Dragon Tattoo	8	The Girl with the Dragon Tattoo
9	2023-11-28	9	2023-11-28
10		10	
11	4829137	11	4829137
12	9780307949493	12	9780307949493
13	The Girl with the Dragon Tattoo	13	The Girl with the Dragon Tattoo
14	2023-12-01	14	2023-12-01
15		15	
16		16	1875032
		17	9781612680019
		18	Rich Dad Poor Dad
		19	2023-12-01
		20	
		21	

A new entry will be made into penalty fee.txt to document collected fine.

1	7650248	1	7650248
2	3	2	3
3	2023-11-28	3	2023-11-28
4		4	
5		5	1875032
		6	11
		7	2023-12-01
		8	
		9	

Total copies available for borrow will be added back 1.

36	Rich Dad Poor Dad	36	Rich Dad Poor Dad
37	Kiyosaki Robert T	37	Kiyosaki Robert T
38	9781612680019	38	9781612680019
39	2017	39	2017
40	5	40	5
41	4	41	5

Case 3: Either Student ID or Borrowed Book ISBN or both is Invalid

```

=====
===== Return Book Page =====
=====

(1) Student Return Book
(2) Return Book Record
(3) Exit Back

Choice : 1
Student ID : 12345
Borrowed book ISBN : 9781603090742

No student ID or ISBN found in borrowed book database.

```


Check Student Return Book Record (Librarian)

```
=====
===== Return Book Record =====
=====
```

Book 1:
Student ID: 7650248
Student Name : Liam
ISBN: 9781603094894
Title: Onion Skin
Returned Date: 2023-11-28

Book 2:
Student ID: 9362458
Student Name : Jackson
ISBN: 9780307949493
Title: The Girl with the Dragon Tattoo
Returned Date: 2023-11-28

Book 3:
Student ID: 4829137
Student Name : Emma
ISBN: 9780307949493
Title: The Girl with the Dragon Tattoo
Returned Date: 2023-12-01

Book 4:
Student ID: 1875032
Student Name : Sophia
ISBN: 9781612680019
Title: Rich Dad Poor Dad
Returned Date: 2023-12-01

Enter once to exit back

■

Display All Books

Case 1: Successfully display all books

```
=====
===== Display Book Page =====
=====

1)
Title of Book : All About Danny
Author of Book : Mia Coulton
ISBN of Book : 9780972029537
Year of Publication of Book : 1975
Total copies of Book : 5
Total copies available for borrow of Book : 5

2)
Title of Book : Junkwraith
Author of Book : Ellinor Richey
ISBN of Book : 9781603095006
Year of Publication of Book : 2022
Total copies of Book : 5
Total copies available for borrow of Book : 5

3)
Title of Book : Kodi
Author of Book : Jared Cullum
ISBN of Book : 9781603094672
Year of Publication of Book : 2020
Total copies of Book : 5
Total copies available for borrow of Book : 4

4)
Title of Book : Monster on the Hill
Author of Book : Rob Harrell
ISBN of Book : 9781603094917
Year of Publication of Book : 2020
Total copies of Book : 5
Total copies available for borrow of Book : 5

5)
Title of Book : Onion Skin
Author of Book : Edgar Camacho
ISBN of Book : 9781603094894
Year of Publication of Book : 2021
Total copies of Book : 5
Total copies available for borrow of Book : 5

6)
Title of Book : Rich Dad Poor Dad
Author of Book : Kiyosaki Robert T
ISBN of Book : 9781612680019
Year of Publication of Book : 2017
Total copies of Book : 5
Total copies available for borrow of Book : 5

7)
Title of Book : Rivers
Author of Book : Cassandra Moon
ISBN of Book : 7890123456
Year of Publication of Book : 2015
Total copies of Book : 5
Total copies available for borrow of Book : 5

8)
Title of Book : The Fun Family
Author of Book : Benjamin Frisch
ISBN of Book : 9781603093446
Year of Publication of Book : 2021
Total copies of Book : 5
Total copies available for borrow of Book : 5

9)
Title of Book : The Girl with the Dragon Tattoo
Author of Book : Stieg Larsson
ISBN of Book : 9780307949493
Year of Publication of Book : 2003
Total copies of Book : 5
Total copies available for borrow of Book : 5

10)
Title of Book : The Underwater Welder
Author of Book : Jeff Lemire
ISBN of Book : 9781603090742
Year of Publication of Book : 2007
Total copies of Book : 5
Total copies available for borrow of Book : 4

Enter once to exit back
█
```

Calculate Late Return Fee

Case 1: Valid Student ID and Borrowed Book ISBN (not latter than 5 days)

```
=====
===== Panalty Checker Page =====
=====

(1) Penalty Checker
(2) Exit Back

Choice : 1
Student ID : 2103746
Borrowed book ISBN : 9781603090742

>>>>> Found Borrowed Book <<<<<

Student ID: 2103746
Student Name : Ava
ISBN: 9781603090742
Title: The Underwater Welder
Borrowed Date: 2023-11-30

Currently no penalty will be charged.
```

Case 2: Valid Student ID and Borrowed Book ISBN (latter than 5 days)

```
=====
===== Panalty Checker Page =====
=====

(1) Penalty Checker
(2) Exit Back

Choice : 1
Student ID : 1875032
Borrowed book ISBN : 9781612680019

>>>>> Found Borrowed Book <<<<<

Student ID: 1875032
Student Name : Sophia
ISBN: 9781612680019
Title: Rich Dad Poor Dad
Borrowed Date: 2023-11-15

RM 11 will be charged for late return.
```

Case 3: Either Student ID or Borrowed Book ISBN or both invalid

=====	=====
===== Panalty Checker Page =====	===== Panalty Checker Page =====
=====	=====
(1) Penalty Checker	(1) Penalty Checker
(2) Exit Back	(2) Exit Back
Choice : 1	Choice : 1
Student ID : 123213	Student ID : 1875032
Borrowed book ISBN : 9781603090742	Borrowed book ISBN : 11111111
No student ID or ISBN found in borrowed book database.	No student ID or ISBN found in borrowed book database.

Generate Monthly Report

Case 1: Successfully generate monthly report csv file according to current month.

```
=====
===== Staff Main Page =====
=====

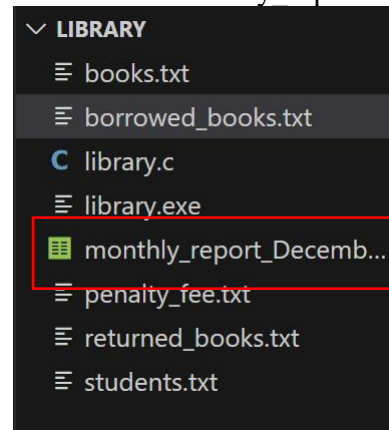
(1) Search Books
(2) Student Borrow Book
(3) Student Return Book
(4) Display All Books
(5) Calculate Late Return Fee
(6) Generate Monthly Report
(7) Log Out

What would you like to do today?
Choice : 6

Successfully generated a monthly report csv file! Please check your folder located in the directory

Enter once to exit back
█
```

Generated a monthly report csv file.



Open With Microsoft Excel or WPS to display.

1	2023 December Monthly Report			
2				
3	Total Number Of Books Borrowed :		6	
4	Student ID		ISBN	
5		5246893	"9781603094672"	
6		2103746	"9781603090742"	
7		7650248	"9781603094894"	
8		9362458	"9780307949493"	
9		4829137	"9780307949493"	
10		1875032	"9781612680019"	
11				
12	Total Number Of Books To Be Returned :		2	
13	Borrowed Date		Student ID	ISBN
14		20/11/2023	5246893	"9781603094672"
15		30/11/2023	2103746	"9781603090742"
16				
17	Total Number Of Books Returned :		4	
18	Returned Date		Student ID	ISBN
19		28/11/2023	7650248	"9781603094894"
20		28/11/2023	9362458	"9780307949493"
21		1/12/2023	4829137	"9780307949493"
22		1/12/2023	1875032	"9781612680019"
23				
24	Total Penalty Collected (RM) :		14	
25	Fine Date		Student ID	Fines (RM)
26		28/11/2023	7650248	3
27		1/12/2023	1875032	11

Log Out

Case 1: Log out successful

```
=====
===== 2023-12-01 Welcome To Library =====
=====

(1) Student
(2) Staff
(3) Exit

Choice : █
```

Exit

Case 1: Exited Successfully.

```
Thank you for using the Library Management System.
Have a great day and happy reading!
```

```
PS C:\Users\kanma\OneDrive\Desktop\Homework\Programming and Algorithms (COMP1028 UNMC)\Project\Assignment\Individual\Library> █
```