

The screenshot shows a code editor interface with a dark theme. In the top left, there's a sidebar with icons for Explorer, Search, Find, and Outline/Timeline. The Explorer section shows a folder named 'HW-10' containing files: 'books.txt', 'Hw10.pdf', 'main.c', 'makefile', 'students.txt', and 'test'. The main workspace has tabs for 'books.txt' and 'students.txt', with 'books.txt' currently active. The content of 'books.txt' is a list of 19 book entries, each numbered from 1 to 19. Each entry contains five fields: ISBN, Title, Author, Publication Year, and Status. The status for all books is 'available'. The text is in a monospaced font.

```
1 ISBN,Title,Author,Publication Year,Status
2 9781501142970,The Stand,Stephen King,1978,available
3 9781501143700,Misery,Stephen King,1987,available
4 9780141183060,Burmese Days,George Orwell,1934,available
5 9780007525300,The Murder of Roger Ackroyd,Agatha Christie,1926,available
6 9780747542155,Harry Potter and the Prisoner of Azkaban,J.K. Rowling,1999,available
7 9780007136834,And Then There Were None,Agatha Christie,1939,available
8 9780151010264,Animal Farm,George Orwell,1945,available
9 9780007119318,Murder on the Orient Express,Agatha Christie,1934,available
10 9780156196253,Homage to Catalonia,George Orwell,1938,available
11 9780747532743,Harry Potter and the Philosopher's Stone,J.K. Rowling,1997,available
12 9780747538493,Harry Potter and the Chamber of Secrets,J.K. Rowling,1998,available
13 9780439358064,Harry Potter and the Order of the Phoenix,J.K. Rowling,2003,available
14 9780312979478,Death on the Nile,Agatha Christie,1937,available
15 9780151660387,Down and Out in Paris and London,George Orwell,1933,available
16 9780008196300,The ABC Murders,Agatha Christie,1936,available
17 9780451155757,Carrie,Stephen King,1974,available
18 9780451524935,1984,George Orwell,1949,available
19 9780451169525,The Shining,Stephen King,1977,available
```

initial books.txt file

The screenshot shows a dark-themed code editor interface with the following details:

- Explorer Bar (Left):** Shows a project structure under "HW-10".
 - "books.txt"
 - "Hw10.pdf"
 - "main.c"
 - "makefile"
 - "students.txt"** (highlighted in grey)
 - "test"
- File Tabs (Top):** Shows three tabs: "books.txt", "students.txt X", and another unnamed tab.
- Content Area (Main View):** Displays the "students.txt" file content.

Index	Student Name	ID	Grade
1	Ayşe Kaya	20210001	0
2	Mehmet Demir	20210002	0
3	Zeynep Öztürk	20210003	0
4	Ahmet Yılmaz	20210004	0
5	Elif Can	20210005	0
6	İbrahim Arslan	20210006	0
7	Cemile Aksoy	20210007	0
8	Emir Şahin	20210008	0
9	Leyla Çelik	20210009	0
10	Ali Akbulut	20210010	0
- Bottom Status Bar:** Shows "Ln 1, Col 1", "Spaces: 4", "UTF-8", "LF", "Plain Text", and a few small icons.
- Bottom Left Icons:** Includes icons for user profile, outline, timeline, and search.

Text Overlay: The text "initial students.txt file" is displayed in red at the bottom center of the screen.

Welcome to library book management system

Select from menu:

- 1>Show Student's Borrowed Book List
- 2>Add Book
- 3>Delete Book
- 4>Update Book
- 5>Filter and Sort Books
- 6>Reverse Book List
- 7>Search Books
- 8>Borrow Book
- 9>Return Book
- 0>Exit

> 2

Enter ISBN number: 9780439136365

Enter title: Harry Potter and the Goblet of Fire

Enter author: J.K. Rowling

Enter publication year: 2000

Enter method (0: FIFO, 1: LIFO): 1

Select from menu:

- 1>Show Student's Borrowed Book List
- 2>Add Book
- 3>Delete Book
- 4>Update Book
- 5>Filter and Sort Books
- 6>Reverse Book List
- 7>Search Books
- 8>Borrow Book
- 9>Return Book
- 0>Exit

> 2

Enter ISBN number: 9780437364736

Enter title: Anml Frm

Enter author: Geoege Owell

Enter publication year: 1950

Enter method (0: FIFO, 1: LIFO): 0

The screenshot shows a dark-themed code editor interface with several windows open. The main window displays the contents of a file named 'books.txt'. The file's header is 'ISBN,Title,Author,Publication Year,Status'. Below the header, there are 21 entries, each consisting of five fields separated by commas. The entries represent various books and their details. At the end of each entry, there is a red annotation: '-- LIFO added book' for the last entry (line 21) and '-- FIFO added book' for the second-to-last entry (line 20). The sidebar on the left shows a tree view of the project structure, including files like 'books.txt', 'Hw10.pdf', 'main.c', 'makefile', 'students.txt', and 'test'. The bottom navigation bar includes icons for user profile, outline, timeline, and search, along with status information like line count (Ln 21), column count (Col 51), and file encoding (UTF-8).

EXPLORER ...

HW-10 ⌂ ⌂ ⌂ ⌂

books.txt Hw10.pdf main.c makefile students.txt test

books.txt

1 ISBN,Title,Author,Publication Year,Status

2 9780439136365,Harry Potter and the Goblet of Fire,J.K. Rowling,2000,available <-- LIFO added book

3 9781501142970,The Stand,Stephen King,1978,available

4 9781501143700,Misery,Stephen King,1987,available

5 9780141183060,Burmese Days,George Orwell,1934,available

6 9780007525300,The Murder of Roger Ackroyd,Agatha Christie,1926,available

7 9780747542155,Harry Potter and the Prisoner of Azkaban,J.K. Rowling,1999,available

8 9780007136834,And Then There Were None,Agatha Christie,1939,available

9 9780151010264,Animal Farm,George Orwell,1945,available

10 9780007119318,Murder on the Orient Express,Agatha Christie,1934,available

11 9780156196253,Homage to Catalonia,George Orwell,1938,available

12 9780747532743,Harry Potter and the Philosopher's Stone,J.K. Rowling,1997,available

13 9780747538493,Harry Potter and the Chamber of Secrets,J.K. Rowling,1998,available

14 9780439358064,Harry Potter and the Order of the Phoenix,J.K. Rowling,2003,available

15 9780312979478,Death on the Nile,Agatha Christie,1937,available

16 9780151660387,Down and Out in Paris and London,George Orwell,1933,available

17 9780008196300,The ABC Murders,Agatha Christie,1936,available

18 9780451155757,Carrie,Stephen King,1974,available

19 9780451524935,1984,George Orwell,1949,available

20 9780451169525,The Shining,Stephen King,1977,available

21 9780437364736,Anml Frm,Geoeg Owell,1950,available <-- FIFO added book

Ln 21, Col 51 Spaces: 4 UTF-8 LF Plain Text ⌂ ⌂

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 3

Enter ISBN number: 9780439136365

Book successfully deleted.

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 4

Enter ISBN number: 9780437364736

Enter the name of the feature you want to update (title/author/publicationYear): title

Enter the new value for title: Animal Farm

Book successfully updated.

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 4

Enter ISBN number: 9780437364736

Enter the name of the feature you want to update (title/author/publicationYear): author

Enter the new value for author: George Orwell

Book successfully updated.

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 4

Enter ISBN number: 9780437364736

Enter the name of the feature you want to update (title/author/publicationYear): publicationYear

Enter the new value for publicationYear: 1945

Book successfully updated.

The screenshot shows a code editor interface with the following details:

- Explorer Bar:** On the left, there is a sidebar titled "EXPLORER" containing a tree view of files and folders. The "books.txt" file is selected.
- File Tabs:** At the top, there are tabs for "books.txt" and "students.txt".
- Code Editor:** The main area displays the contents of the "books.txt" file. The file contains a list of 20 books, each on a new line, with columns for ISBN, Title, Author, Publication Year, and Status. The last entry is highlighted in red with the text "<- Updated book".
- Status Bar:** At the bottom, it shows "Ln 1, Col 1" and "Spaces: 4" along with other standard status bar icons.

```
1 ISBN,Title,Author,Publication Year,Status
2 9781501142970,The Stand,Stephen King,1978,available
3 9781501143700,Misery,Stephen King,1987,available
4 9780141183060,Burmese Days,George Orwell,1934,available
5 9780007525300,The Murder of Roger Ackroyd,Agatha Christie,1926,available
6 9780747542155,Harry Potter and the Prisoner of Azkaban,J.K. Rowling,1999,available
7 9780007136834,And Then There Were None,Agatha Christie,1939,available
8 9780151010264,Animal Farm,George Orwell,1945,available
9 9780007119318,Murder on the Orient Express,Agatha Christie,1934,available
10 9780156196253,Homage to Catalonia,George Orwell,1938,available
11 9780747532743,Harry Potter and the Philosopher's Stone,J.K. Rowling,1997,available
12 9780747538493,Harry Potter and the Chamber of Secrets,J.K. Rowling,1998,available
13 9780439358064,Harry Potter and the Order of the Phoenix,J.K. Rowling,2003,available
14 9780312979478,Death on the Nile,Agatha Christie,1937,available
15 9780151660387,Down and Out in Paris and London,George Orwell,1933,available
16 9780008196300,The ABC Murders,Agatha Christie,1936,available
17 9780451155757,Carrie,Stephen King,1974,available
18 9780451524935,1984,George Orwell,1949,available
19 9780451169525,The Shining,Stephen King,1977,available
20 9780437364736,Animal Farm,George Orwell,1945,available <- Updated book
```

books.txt file after deleted book & updates

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 5

0 --> Filter by Author

1 --> Filter by Publication Year

> 0

Enter your filter: Agatha Christie

0 --> Sort by Title

1 --> Sort by author

2 --> Sort by Publication Year (newer to older)

> 0

9780007136834,And Then There Were None,Agatha Christie,1939,available

9780312979478,Death on the Nile,Agatha Christie,1937,available

9780007119318,Murder on the Orient Express,Agatha Christie,1934,available

9780008196300,The ABC Murders,Agatha Christie,1936,available

9780007525300,The Murder of Roger Ackroyd,Agatha Christie,1926,available

Select from menu:

1>Show Student's Borrowed Book List

2-Add Book

3-Delete Book

4-Update Book

5-Filter and Sort Books

6-Reverse Book List

7-Search Books

8-Borrow Book

9-Return Book

0-Exit

> 5

0 --> Filter by Author

1 --> Filter by Publication Year

> 0

Enter your filter: J.K. Rowling

0 --> Sort by Title

1 --> Sort by author

2 --> Sort by Publication Year (newer to older)

> 2

9780439358064,Harry Potter and the Order of the Phoenix,J.K. Rowling,2003,available

9780747542155,Harry Potter and the Prisoner of Azkaban,J.K. Rowling,1999,available

9780747538493,Harry Potter and the Chamber of Secrets,J.K. Rowling,1998,available

9780747532743,Harry Potter and the Philosopher's Stone,J.K. Rowling,1997,available

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 5

0 --> Filter by Author

1 --> Filter by Publication Year

> 1

Enter your filter: 2000

0 --> Sort by Title

1 --> Sort by author

2 --> Sort by Publication Year (newer to older)

> 1

No records found!

Select from menu:

- 1>Show Student's Borrowed Book List
- 2>Add Book
- 3>Delete Book
- 4>Update Book
- 5>Filter and Sort Books
- 6>Reverse Book List
- 7>Search Books
- 8>Borrow Book
- 9>Return Book
- 0>Exit

> 6

Book list reversed.

The screenshot shows a code editor interface with a dark theme. In the top left, there's a sidebar with icons for file operations like copy, paste, search, and refresh. Below it is a tree view showing a folder named 'HW-10' containing files: 'books.txt', 'Hw10.pdf', 'main.c', 'makefile', 'students.txt', and 'test'. The main workspace has two tabs open: 'books.txt' and 'students.txt'. The 'books.txt' tab is active and displays a list of books, each on a new line, starting with 'ISBN,Title,Author,Publication Year,Status' and followed by 20 entries. The 'students.txt' tab is visible but empty. The bottom right corner shows status information: 'Ln 20, Col 52', 'Spaces: 4', 'UTF-8', 'LF', 'Plain Text', and a small icon.

EXPLORER

... books.txt students.txt

HW-10

books.txt Hw10.pdf main.c makefile students.txt test

books.txt

1 ISBN,Title,Author,Publication Year,Status
2 9780437364736,Animal Farm,George Orwell,1945,available
3 9780451169525,The Shining,Stephen King,1977,available
4 9780451524935,1984,George Orwell,1949,available
5 9780451155757,Carrie,Stephen King,1974,available
6 9780008196300,The ABC Murders,Agatha Christie,1936,available
7 9780151660387,Down and Out in Paris and London,George Orwell,1933,available
8 9780312979478,Death on the Nile,Agatha Christie,1937,available
9 9780439358064,Harry Potter and the Order of the Phoenix,J.K. Rowling,2003,available
10 9780747538493,Harry Potter and the Chamber of Secrets,J.K. Rowling,1998,available
11 9780747532743,Harry Potter and the Philosopher's Stone,J.K. Rowling,1997,available
12 9780156196253,Homage to Catalonia,George Orwell,1938,available
13 9780007119318,Murder on the Orient Express,Agatha Christie,1934,available
14 9780151010264,Animal Farm,George Orwell,1945,available
15 9780007136834,And Then There Were None,Agatha Christie,1939,available
16 9780747542155,Harry Potter and the Prisoner of Azkaban,J.K. Rowling,1999,available
17 9780007525300,The Murder of Roger Ackroyd,Agatha Christie,1926,available
18 9780141183060,Burmese Days,George Orwell,1934,available
19 9781501143700,Misery,Stephen King,1987,available
20 9781501142970,The Stand,Stephen King,1978,available

Book list after reversal

< OUTLINE > TIMELINE

Ln 20, Col 52 Spaces: 4 UTF-8 LF Plain Text

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 7

0 --> Search by ISBN number

1 --> Search by author

2 --> Search by title

> 0

Enter your search value: 9780312979478

ISBN: 9780312979478 Title: Death on the Nile Author: Agatha Christie Publication Year: 1937 Status: available

Select from menu:

- 1>Show Student's Borrowed Book List
- 2>Add Book
- 3>Delete Book
- 4>Update Book
- 5>Filter and Sort Books
- 6>Reverse Book List
- 7>Search Books
- 8>Borrow Book
- 9>Return Book
- 0>Exit

> 7

0 --> Search by ISBN number

1 --> Search by author

2 --> Search by title

> 1

Enter your search value: Stephen King

ISBN: 9780451169525 Title: The Shining Author: Stephen King Publication Year: 1977 Status: available

ISBN: 9780451155757 Title: Carrie Author: Stephen King Publication Year: 1974 Status: available

ISBN: 9781501143700 Title: Misery Author: Stephen King Publication Year: 1987 Status: available

ISBN: 9781501142970 Title: The Stand Author: Stephen King Publication Year: 1978 Status: available

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 8

Enter Student ID: 20210001

Enter ISBN number of the book you want to borrow: 9780747538493

Book successfully borrowed.

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 8

Enter Student ID: 20210001

Enter ISBN number of the book you want to borrow: 9780747532743

Book successfully borrowed.

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 8

Enter Student ID: 20210005

Enter ISBN number of the book you want to borrow: 9780156196253

Book successfully borrowed.

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

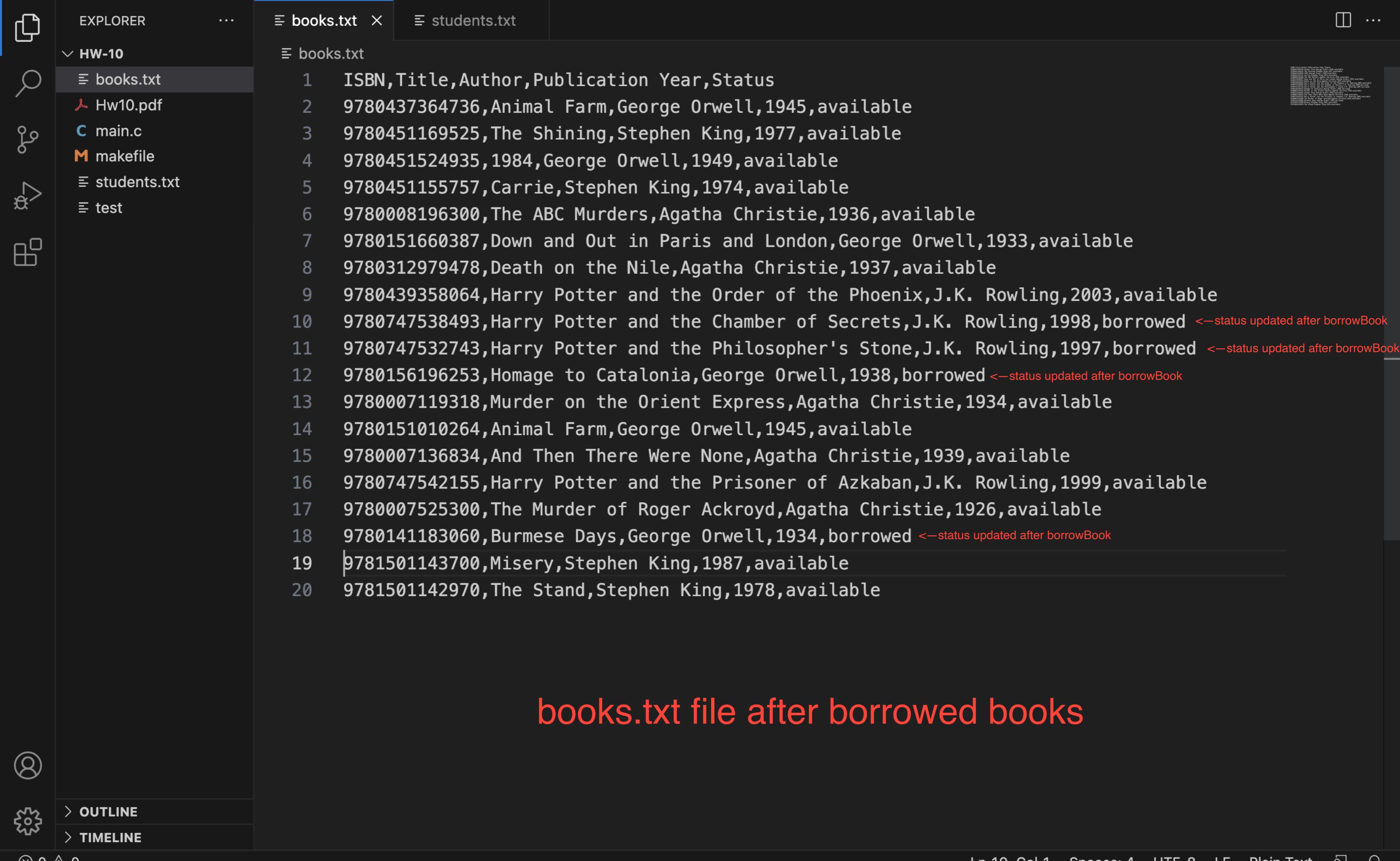
0>Exit

> 8

Enter Student ID: 20210007

Enter ISBN number of the book you want to borrow: 9780141183060

Book successfully borrowed.



books.txt file after borrowed books

The screenshot shows a dark-themed code editor interface with several windows open. On the left, the Explorer sidebar displays a project structure under 'HW-10' with files like 'books.txt', 'Hw10.pdf', 'main.c', 'makefile', 'students.txt', and 'test'. The main area contains two tabs: 'books.txt' and 'students.txt'. The 'students.txt' tab is active, showing the following content:

```
1 Ayşe Kaya,2021001,2
2 9780747538493,Harry Potter and the Chamber of Secrets,J.K. Rowling,1998
3 9780747532743,Harry Potter and the Philosopher's Stone,J.K. Rowling,1997
4 Mehmet Demir,2021002,0
5 Zeynep Öztürk,2021003,0
6 Ahmet Yılmaz,2021004,0
7 Elif Can,2021005,1
8 9780156196253,Homage to Catalonia,George Orwell,1938
9 İbrahim Arslan,2021006,0
10 Cemile Aksoy,2021007,1
11 9780141183060,Burmese Days,George Orwell,1934
12 Emir Şahin,2021008,0
13 Leyla Çelik,2021009,0
14 Ali Akbulut,20210010,0
```

A large red watermark text 'students.txt file after borrowed books' is overlaid in the center of the editor window.

students.txt file after borrowed books



> OUTLINE
> TIMELINE

⊗ 0 ▲ 0

Ln 14, Col 23 Spaces: 4 UTF-8 LF Plain Text ⌂ ⌂

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 9

Enter ISBN number of the book you want to return: 9780747538493

Book successfully returned from Ayşe Kaya/20210001

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 9

Enter ISBN number of the book you want to return: 9780747532743

Book successfully returned from Ayşe Kaya/20210001

The screenshot shows a dark-themed code editor interface with several windows open. The left sidebar contains icons for Explorer, Search, Symbols, Files, and Settings. The Settings icon is highlighted with a blue border. The main area has three tabs: 'books.txt', 'students.txt x', and 'students.txt'. The 'students.txt' tab is active, displaying the following content:

```
1 Ayşe Kaya,2021001,0
2 Mehmet Demir,2021002,0
3 Zeynep Öztürk,2021003,0
4 Ahmet Yılmaz,2021004,0
5 Elif Can,2021005,1
6 9780156196253,Homage to Catalonia,George Orwell,1938
7 İbrahim Arslan,2021006,0
8 Cemile Aksoy,2021007,1
9 9780141183060,Burmese Days,George Orwell,1934
10 Emir Şahin,2021008,0
11 Leyla Çelik,2021009,0
12 Ali Akbulut,20210010,0
```

A large red watermark text 'students.txt file after returned books' is overlaid in the center of the editor window.

books.txt

books.txt

1 ISBN,Title,Author,Publication Year,Status
2 9780437364736,Animal Farm,George Orwell,1945,available
3 9780451169525,The Shining,Stephen King,1977,available
4 9780451524935,1984,George Orwell,1949,available
5 9780451155757,Carrie,Stephen King,1974,available
6 9780008196300,The ABC Murders,Agatha Christie,1936,available
7 9780151660387,Down and Out in Paris and London,George Orwell,1933,available
8 9780312979478,Death on the Nile,Agatha Christie,1937,available
9 9780439358064,Harry Potter and the Order of the Phoenix,J.K. Rowling,2003,available
10 9780747538493,Harry Potter and the Chamber of Secrets,J.K. Rowling,1998,available ←status updated after returnBook
11 9780747532743,Harry Potter and the Philosopher's Stone,J.K. Rowling,1997,available ←status updated after returnBook
12 9780156196253,Homage to Catalonia,George Orwell,1938,borrowed
13 9780007119318,Murder on the Orient Express,Agatha Christie,1934,available
14 9780151010264,Animal Farm,George Orwell,1945,available
15 9780007136834,And Then There Were None,Agatha Christie,1939,available
16 9780747542155,Harry Potter and the Prisoner of Azkaban,J.K. Rowling,1999,available
17 9780007525300,The Murder of Roger Ackroyd,Agatha Christie,1926,available
18 9780141183060,Burmese Days,George Orwell,1934,borrowed
19 9781501143700,Misery,Stephen King,1987,available
20 9781501142970,The Stand,Stephen King,1978,available

books.txt file after borrowed books

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 1

Enter Student ID: 20210005

Name: Elif Can ID: 20210005

ISBN: 9780156196253 Title: Homage to Catalonia Author: George Orwell Publication Year: 1938

Select from menu:

1>Show Student's Borrowed Book List

2>Add Book

3>Delete Book

4>Update Book

5>Filter and Sort Books

6>Reverse Book List

7>Search Books

8>Borrow Book

9>Return Book

0>Exit

> 0

Terminating program...