

I. How you do your homework?

I do my homework with Microsoft Visual Studio 2015. I create header files and source files before I write whole code. Finally, I compile and run in SSH.

II. Which data structure you use?

I use arrays and file operations.

III. Why you use this structure?

I think these methods is best way in order to do homework.

IV. Which part of your code does the function of each of the given commands?**(P) Print the whole catalogue**

I use `print_record ()` and `Book::print ()` functions. This function write ISBN, title, author's name, author's surname, location, and book type.

(A) Search the catalogue by author

I use `author_search ()` and `Book::author (char *ptrbook)` functions. Also, I use `strcmp` function and search in for loop.

(T) Search the catalogue by book type

I use `type_search ()` and `Book::type (char *ptrbook)` functions. Also, I use `strcmp` function and search in for loop.

(I) Insert a new book record

I use `add_record ()`, `Book::add(book_record *ptr)`, `cout`, and `cin` functions. If user write a string for ISBN and location, program give a warning "Please enter numeric characters only: ".

```
while (!(cin >> new_record.ISBN))
{
    cin.clear();
    cin.ignore(1000, '\n');
    cout << "Please enter numeric characters only: ";
}
```

(U) Update an existing book record

I use update_record () and Book::update(int record_num, book_record *ptr) functions. These functions update records.

(R) Remove a book record

I use delete_record () and Book::del(int record_num). These functions delete record and update list.

```
for (; record_num <= number_of_record; record_num++)
    *(k + record_num - 1) = *(k + record_num);
number_of_record--;
```

Thanks to for loop, program eliminate the blank record.

(E) Exit the program

I only use perform_operation (char choice) function.

V. The screenshot of the console of your program:**1. Insert**

```
Please select the operation to perform and enter the operation code
(P) Print the whole catalogue
(A) Search the catalogue by author
(T) Search the catalogue by book type
(I) Insert a new book record
(U) Update an existing book record
(R) Remove a book record
(E) Exit the program
Your selection is: I
Please enter the information of the book you want to save
ISBN: 1234
Title: data
Author Name: Emre
Author Surname: Ozdil
Location: 9786
Book Type: computer
Record has been added.
```

2. Author_Search

```
Please select the operation to perform and enter the operation code
(P) Print the whole catalogue
(A) Search the catalogue by author
(T) Search the catalogue by book type
(I) Insert a new book record
(U) Update an existing book record
(R) Remove a book record
(E) Exit the program
Your selection is: A
Please enter the name of the author you want to search: Emre
1. 1234 data    Emre    Ozdil    9786    computer
```

3. Type_Search

```
Please select the operation to perform and enter the operation code
(P) Print the whole catalogue
(A) Search the catalogue by author
(T) Search the catalogue by book type
(I) Insert a new book record
(U) Update an existing book record
(R) Remove a book record
(E) Exit the program
Your selection is: T
Please enter the type of the book you want to search: computer
1. 1234 data    Emre    Ozdil    9786    computer
```

4. Update

```
Please select the operation to perform and enter the operation code
(P) Print the whole catalogue
(A) Search the catalogue by author
(T) Search the catalogue by book type
(I) Insert a new book record
(U) Update an existing book record
(R) Remove a book record
(E) Exit the program
Your selection is: U
Please enter the ISBN of the book you want to update: 1234
1. 1234 data    Emre    Ozdil    9786    computer
Record has been found.
Please enter the index of the record that you want to update(Press - 1 to exit without updating): 1
Please enter the up-to-date information
ISBN: 4532
Title: data
Author Name: Emre
Author Surname: Ozdil
Location: 5682
Book Type: computer
Record has been updated.
```

5. Print

```
Please select the operation to perform and enter the operation code
(P) Print the whole catalogue
(A) Search the catalogue by author
(T) Search the catalogue by book type
(I) Insert a new book record
(U) Update an existing book record
(R) Remove a book record
(E) Exit the program
Your selection is: P
1. 4532 data      Emre      Ozdil      5682      computer
```

6. Remove

```
Please select the operation to perform and enter the operation code
(P) Print the whole catalogue
(A) Search the catalogue by author
(T) Search the catalogue by book type
(I) Insert a new book record
(U) Update an existing book record
(R) Remove a book record
(E) Exit the program
Your selection is: R
Please enter the ISBN of the book you want to delete: 4532
1. 4532 data      Emre      Ozdil      5682      computer
Record has been found.
Please enter the index of the record that you want to delete (Press - 1 to exit without deletion): 1
Record has been deleted
```

7. Exit

```
Please select the operation to perform and enter the operation code
(P) Print the whole catalogue
(A) Search the catalogue by author
(T) Search the catalogue by book type
(I) Insert a new book record
(U) Update an existing book record
(R) Remove a book record
(E) Exit the program
Your selection is: E
Are you sure you want to exit the program? (Y/N): Y
Press any key to continue . . .
```