

Database Systems Lab

SESSION 4

DELETE Operation

In this lab session, you will implement the DELETE operation to delete existing record in the data file.

Complete the following tasks:

Modify the rollno_lab4.c function as per the following:

```
int libsys_create( char *repo_name)
{
    //remains same
}

int libsys_open( char *repo_name )
{
    //remains same
}

int put_book_by_isbn( int key, struct Book *rec )
{
    // put_rec_by_key
    //-----check index file for key
    //-----if key already present check for flag
    //-----if key is present but flag is RECORD_DELETED then just add
    entry at same index i.e update only offset and update flag; return
    status
    //-----if key is present but flag is RECORD_PRSENT return failure as
    data is already present
    //-----if key is not prsent then proceed with following steps:

    // Seek to the end of the data file
    // Create an index entry with the current data file location using
    ftell
    // Add index entry to array using offset returned by ftell
    // Write the key at the current data file location
    // Write the record after writing the key
    // return status
}
```

```

int get_book_by_isbn( int key, struct Book *rec )
{

// get_rec_by_key
//check repo status
// Search for index entry in index_entries array
//-----use flag : RECORD_PRSENT to read valid entries
// Seek to the file location based on offset in index entry
// Read the key at the current file location
// Read the record after reading the key
}

int delete_book_by_isbn( int key )
{

/
//-----delete_rec_by_key
//-----check repo status
//-----Search for index entry in index_entries array
//-----if key matches and flag is RECORD_PRSENT then reset flag
//-----if key matches but flag is RECORD_DELETED return status
LIB_REC_NOT_FOUND
}

int libsys_close()
{

//remains same
}

```

Testing

- The following driver program is given to you:
 - simple_tester.c and libsys_tester.c (generic testing with input data file like testcase.in)
- Test your program thoroughly with the above driver program by creating your own test input files

Commands

- Use the following command for creating pds_tester executable:

```

gcc -o output bst.c rollno_lab4.c simple_tester.c
./output

gcc -o output bst.c rollno_lab4.c libsys_tester.c
./output testcase.in

```

```

gcc -o output libsys.c simple_driver.c
./output

```

```

gcc -o output libsys.c libsys_tester.c
./output testcase.in

```

For testing using pds_tester, use the following command:

```
pds_tester testcase.in
```

Submission

Upload the following to LMS as a zipped file (IMTXXXXXXX.zip):

- rollno_lab4.c

YOU ARE NOT EXPECTED CHANGE ANY OF THE FILES GIVEN TO YOU

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Sample output:

```
gcc -o output bst.c rollno_lab4.c simple_tester.c  
./output
```

```
Test-case-id 01:SUCCESS  
Test-case-id 02:SUCCESS  
Test-case-id 03:SUCCESS  
Test-case-id 04:SUCCESS  
Test-case-id 05:SUCCESS  
Test-case-id 06:SUCCESS  
Test-case-id 07:SUCCESS  
Test-case-id 08:SUCCESS  
Test-case-id 09:SUCCESS  
Test-case-id 09:FAIL  
Test-case-id 10:SUCCESS  
Test-case-id 11:SUCCESS  
Test-case-id 12:SUCCESS  
Test-case-id 13:SUCCESS
```

```
gcc -o output bst.c rollno_lab4.c libsys_tester.c  
./output testcase.in
```

Test case: CREATE newdemo 0

Status PASS:

Test case: OPEN newdemo 0

Status PASS:

Test case: STORE 10000 0

Status PASS:

Test case: STORE 10001 0

Status PASS:

Test case: STORE 10002 0

Status PASS:

Test case: SEARCH 10000 0

Status PASS:

Test case: SEARCH 10000 0

Status PASS:

Test case: SEARCH 90000 1

Status PASS:

Test case: CLOSE 0

Status PASS:

Test case: OPEN newdemo 0

Status PASS:

Test case: STORE 10000 1

Status PASS:

Test case: STORE 10001 1

Status PASS:

Test case: STORE 10002 1

Status PASS:

Test case: SEARCH 10000 0

Status PASS:

Test case: SEARCH 10000 0

Status PASS:

Test case: SEARCH 90000 1

Status PASS:

Test case: CLOSE 0

Status PASS:

Test case: OPEN newdemo 0

Status PASS:

Test case: STORE 10003 0

Status PASS:

Test case: CLOSE 0

Status PASS:

Test case: OPEN newdemo 0

Status PASS:

Test case: SEARCH 10003 0

Status PASS:

Test case: SEARCH 10000 0

Status PASS:

Test case: SEARCH 90000 1

Status PASS:

Test case: DELETE 10000 0

Status PASS:

Test case: DELETE 10000 1

Status PASS:

Test case: SEARCH 10000 1

Status PASS:

Test case: STORE 10000 0

Status PASS:

Test case: SEARCH 10000 0

Status PASS:

Test case: CLOSE 0

Status PASS: