

**Module: R1: C Programming**  
**Section: C Inline Functions, Structures Task: 3.2**

## Task 3.2

### Library Management System

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#### Intro:

The program first asks the user to choose an operation (book details or check availability). Then, it prompts the user to select a specific book from the LMS. The code then uses the user's choices to determine which operation to perform on the selected book.

#### Explanation:

This program manages a simple Library Management System (LMS). It takes user input to choose an operation and a book.

Here's a breakdown:

1. **int option:** This section gets the user's choice for an operation. The user is prompted to select either "1. Book Details" or "2. Check Available Copies". The input is stored in the option variable.
2. **char c:** This section gets the user's choice of a book from the LMS. The user is prompted to choose from "A, B, or C". The chosen letter (case-insensitive) is stored in the c variable.
3. **c = tolower(c):** This line converts the entered book choice character (e.g., 'A', 'B', 'C') to lowercase. This is done to make the input case-insensitive (so the user can enter 'a', 'b', or 'c' as well).

#### Function Definitions:

```
#include<stdio.h>
#include "lms.h"

inline int is_copies_available(Book x){
    if (x.copies_available >= 1){
        printf("Yes, %d Copies are available.\n", x.copies_available);
    }
    else{
```

```

        printf("No Copies Available.\n");
    }
    return 0;
}

inline Book print_book_details (Book y){
    printf("\n-----Book Details-----\n");
    printf("Title: %s\n", y.title);
    printf("Author: %s\n", y.author);
    printf("ISBN: %s\n", y.ISBN);
    printf("Publication Year: %d\n", y.publication_year);
    printf("Genre: %s\n", y.genre);
    printf("Copies Available: %d\n", y.copies_available);
}

```

```

xe-user106@noman-10xengineers: ~/10x Engineers/Remedial Training/R1: C Programming/Task 3.2
xe-user106@noman-10xengineers: ~/10x Engineers/Remedial Training/R1: C Programming/Task 3.2$ gcc -g lms.c test_lms.c -o lms
xe-user106@noman-10xengineers: ~/10x Engineers/Remedial Training/R1: C Programming/Task 3.2$ clear
xe-user106@noman-10xengineers: ~/10x Engineers/Remedial Training/R1: C Programming/Task 3.2$ ./lms
Three Books are Stored in the LMS namely, A, B & C

Please Select an Option?
1. Book Details
2. Check Available Copies
3. Choose a Book from LMS (A, B, C)
2
No Copies Available.
xe-user106@noman-10xengineers: ~/10x Engineers/Remedial Training/R1: C Programming/Task 3.2$ ./lms
Three Books are Stored in the LMS namely, A, B & C

Please Select an Option?
1. Book Details
2. Check Available Copies
3. Choose a Book from LMS (A, B, C)
2
-----Book Details-----
Title: Maths
Author: Junaid
ISBN: 2312837147149
Publication Year: 2017
Genre: Science
Copies Available: 1
xe-user106@noman-10xengineers: ~/10x Engineers/Remedial Training/R1: C Programming/Task 3.2$ ./lms
Three Books are Stored in the LMS namely, A, B & C

Please Select an Option?
1. Book Details
2. Check Available Copies
3. Choose a Book from LMS (A, B, C)
3
-----Book Details-----
Title: Chemistry
Author: Noman
ISBN: 1234567890123
Publication Year: 2014
Genre: Science
xe-user106@noman-10xengineers: ~/10x Engineers/Remedial Training/R1: C Programming/Task 3.2$

```