| **Experiment No.12** |
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| Implement mini project |
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**Experiment No. 12: Implement mini project**

**Aim:** Write a program to implement mini project.

**Code:**

```c
#include <stdio.h>
#include <stdlib.h>
#include <string.h>

// Structure for Library
struct library {
    char book_name[20];
    char author[20];
    int pages;
    float price;
};

// Clear input buffer (useful for some compilers)
void clearInputBuffer() {
    int c;
    while ((c = getchar()) != '\n' && c != EOF) { }
}

// Driver Code
int main() {
    struct library lib[100];
    char ar_nm[30], bk_nm[30];
    int i = 0, input = 0, count = 0;

    // Main loop
    while (input != 5) {
        printf("\nWELCOME TO E-LIBRARY\n");
        printf("\n1. Add book information\n2. Display book information\n");
        printf("3. List all books of a given author\n4. Count of books\n5. Exit\n");

        printf("\nEnter your choice: ");
        if (scanf("%d", &input) != 1 || input < 1 || input > 5) {
            printf("Invalid input. Please enter a number between 1 and 5.\n");
            clearInputBuffer(); // To prevent infinite loop due to wrong input
            continue;
        }

        switch (input) {
            // Add book
            case 1:
                printf("Enter book name: ");
                scanf("%19s", lib[count].book_name);  // Limit to 19 chars

                printf("Enter author name: ");
                scanf("%19s", lib[count].author);  // Limit to 19 chars
```

```c
      printf("Enter pages: ");
      while (scanf("%d", &lib[count].pages) != 1 || lib[count].pages <= 0) {
         printf("Invalid input. Enter valid page number: ");
         clearInputBuffer();  // Clear incorrect input
      }

      printf("Enter price: ");
      while (scanf("%f", &lib[count].price) != 1 || lib[count].price <= 0) {
         printf("Invalid input. Enter valid price: ");
         clearInputBuffer();  // Clear incorrect input
      }
      count++;
      printf("Book added successfully!\n");
      break;

// Display all books
case 2:
   if (count == 0) {
      printf("No books in the library.\n");
   } else {
      printf("You have entered the following information:\n");
      for (i = 0; i < count; i++) {
         printf("Book Name: %s | Author: %s | Pages: %d | Price: %.2f\n",
               lib[i].book_name, lib[i].author, lib[i].pages, lib[i].price);
      }
   }
   break;

// Display books by a specific author
case 3:
   printf("Enter author name: ");
   scanf("%29s", ar_nm);  // Limit to 29 chars
   int found = 0;
   for (i = 0; i < count; i++) {
      if (strcmp(ar_nm, lib[i].author) == 0) {
         printf("Book Name: %s | Pages: %d | Price: %.2f\n",
               lib[i].book_name, lib[i].pages, lib[i].price);
         found = 1;
      }
   }
   if (!found) {
      printf("No books found by this author.\n");
   }
   break;

// Display total count of books
case 4:
   printf("Total number of books in the library: %d\n", count);
   break;

// Exit
case 5:
   printf("Exiting the program...\n");
   break;
```

```
        }
    }
    return 0;
}
```

**Output-**

```
WELCOME TO E-LIBRARY

1. Add book information
2. Display book information
3. List all books of a given author
4. Count of books
5. Exit

Enter your choice: 1
Enter book name: Harry_Potter
Enter author name: J.K_Rowling
Enter pages: 300
Enter price: 400
Book added successfully!
```

```
WELCOME TO E-LIBRARY

1. Add book information
2. Display book information
3. List all books of a given author
4. Count of books
5. Exit

Enter your choice: 2
You have entered the following information:
Book Name: Harry_Potter | Author: J.K_Rowling | Pages: 300 | Price:
    400.00
```

```
Enter your choice: 3
Enter author name: J.K_Rowling
Book Name: Harry_Potter | Pages: 300 | Price: 400.00

WELCOME TO E-LIBRARY

1. Add book information
2. Display book information
3. List all books of a given author
4. Count of books
5. Exit

Enter your choice: 4
Total number of books in the library: 1
```