

Rajagiri College of Social Sciences

Department of Computer Science

Mini Project on Data Structure

Library Management System using Linked List

Submitted by

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#include<stdio.h>

#include<stdlib.h>

#include<string.h>

struct node
{
    char title[100];
    char author[50];
    int year;
    struct node *next;
};

struct node *head=NULL;

void insert(char tit[100],char aut[50],int yea)
{
    if(head==NULL)
    {
        head=(struct node *)malloc(sizeof(struct node));
        strcpy(head->title,tit);
        strcpy(head->author,aut);
        head->year=yea;
        head->next=NULL;
    }
    else
    {
        struct node *t;
        t=head;
        while(t->next!=NULL)
        {
            t=t->next;
        }
        t->next=(struct node*)malloc(sizeof(struct node *));
        strcpy(t->next->title,tit);
        strcpy(t->next->author,aut);
        t->next->year=yea;
    }
}

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        t->next->next=NULL;
    }
}

void dele(char tit[])
{
    struct node *t;
    if(head==NULL)
    {
        printf("list is empty");

    }
    else if((strcmp(head->title,tit)==0))
    {
        head=head->next;
        printf("Book Deleted\n");
    }
    else
    {
        t=head;
        while(t->next!=NULL && (strcmp(t->next->title,tit) != 0))
        {
            t=t->next;
        }
        if(t->next==NULL)
        {
            printf("\n Book not found");

        }
        else
        {
            t->next=t->next->next;
            printf("Book Deleted\n");
        }
    }
}

```

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    }
}

void search(char tit[100])
{
    int found;

    struct node *t;

    t=head;

    if(head==NULL)
    {
        printf("\nThe list is empty");
    }
    else
    {
        while(t!=NULL)
        {
            if(strcmp(t->title,tit)==0)
            {
                found=1;
                break;
            }
            t=t->next;
        }
        if(found==1)
        {
            printf("\nThe book is found\n");
        }
        else
        {
            printf("\nThe book is not found\n");
        }
    }
}

void disp()

```

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{
    struct node *t;
    t=head;
    while(t!=NULL)
    {
        printf(" Title:%s Author:%s Year of publication:%d\n\n",t->title,t->author,t->year);
        t=t->next;
    }
}

int menu()
{
    int ch;

    printf("\nEnter your choice\n1-Adding Book\n2-Deleting Book\n3-Searching The Book\n4-
Displaying the books\n5-Exit \n");

    scanf("%d",&ch);

    return ch;
}

void process()
{
    int ch;
    char title[100];
    char author[50];
    int year;
    for(ch=menu();ch!=5;ch=menu())
    {
        switch(ch)
        {
            case 1:
                printf("\nEnter the title of the book:");
                scanf("%[^\n]",title);

                printf("\nEnter the author of the book:");
                scanf("%[^\n]",author);

                printf("\nEnter the year of publication of the book:");

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        scanf("%d",&year);

        insert(title,author,year);

        break;

    case 2:

        printf("Enter the name of the book to be deleted\n");

        getchar();

        printf("Enter the title of the book:");

        scanf(" %[^\n]",title);

        dele(title);

        break;

    case 3:

        printf("\nEnter the name of the book to be searched:");

        getchar();

        scanf(" %[^\n]",title);

        search(title);

        break;

    case 4:

        disp();

        break;

    default:

        printf("Wrong choice");

}

}

}

int main()

{

    process();

}

```

```
Enter 1-Adding Book
2-Deleting Book
3-Searching The Book
4-Displaying the books
5-Exit
1
```

```
Enter the title of the book:www
```

```
Enter the author of the book:yyy
```

```
Enter the year of publication of the book:1997
```

```
Enter 1-Adding Book
2-Deleting Book
3-Searching The Book
4-Displaying the books
5-Exit
1
```

```
Enter the title of the book:xxx
```

```
Enter the author of the book:ttt
```

```
Enter the year of publication of the book:2002
```

```
Enter 1-Adding Book
2-Deleting Book
3-Searching The Book
4-Displaying the books
5-Exit
3
```

```
Enter the name of the book to be searched:xxx
```

```
The book is found
```

The book is found

Enter 1-Adding Book

2-Deleting Book

3-Searching The Book

4-Displaying the books

5-Exit

4

Title:www

Author:yyy

Year of publication:1997

Title:xxx

Author:ttt

Year of publication:2002

Enter 1-Adding Book

2-Deleting Book

3-Searching The Book

4-Displaying the books

5-Exit

2

Enter the name of the book to be deleted

Enter the title of the book:www

Book Deleted

Enter 1-Adding Book

2-Deleting Book

3-Searching The Book

4-Displaying the books

5-Exit

4

Title:xxx

Author:ttt

Year of publication:2002

Enter 1-Adding Book

2-Deleting Book

3-Searching The Book

4-Displaying the books

5-Exit

5

Process exited after 120.3 seconds with return value 5

Press any key to continue . . .