/\*Library project\*/

#include<stdio.h>

#include<string.h>

struct book

{

int no;

char title[20];

char author[20];

float price;

};

int main()

{

int i,n,range,choice,num=1;

struct book b[20];

while(num!=0)

{

printf("\n1.Reading books details\n2.Display books details\n3.Available books\n4.To print Book numberwise\n5.Search with title");

printf("\n6.No.of available copies\n7.Delete book\n8.Update a book\n9.Insert specific position\n10.exit");

printf("\n\nEnter your choice:");

scanf("%d",&choice);

if(choice==1)

{

printf("How many books details do you want to enter:");

scanf("%d",&n);

read(b,n); //reading function

}

else if(choice==2)

print(b,n); //printing funtoin

else if(choice==3)

available(b,n); //available books

else if(choice==4)

numberwise(b,n); //books details-book numberwise

else if(choice==5)

based\_on\_title(b,n); //searching a book based on title

else if(choice==6)

copies(b,n); //available no.of copies for a book

else if(choice==7)

n=delete\_book(b,n); //deleting a book

else if(choice==8)

update\_book(b,n); //update a book

else if(choice==9)

n=insert\_by\_pos(b,n); //insert a book at specified postion

else if(choice==10)

{

}

else

{

printf("\n\nError:invalid choice");

break;

}

printf("\n\nTo continue enter -> 1\nTo exit enter -> 0\n\nEnter your choice:");

scanf("%d",&num);

if(num<0 || num>1)

{

printf("Error:Invalid choice");

break;

}

}

}

int read(struct book b[ ],int n) //reading function

{

printf("\n------Reading books details------\n");

int i;

for(i=0;i<n;i++)

{

printf("\nEnter Book %d details\n\n",i+1);

printf("Enter book no:");

scanf("%d",&b[i].no);

printf("Enter title:");

scanf("%s",b[i].title);

printf("Enter Author name:");

scanf("%s",b[i].author);

printf("Enter price:");

scanf("%f",&b[i].price);

}

}

int print(struct book b[ ],int n) //printing function

{

int i;

printf("\n------Books Details------\n");

for(i=0;i<n;i++)

{

printf("\nBook %d details:\n",i+1);

printf("\nBook no :%d",b[i].no);

printf("\nTitle :%s",b[i].title);

printf("\nAuthor :%s",b[i].author);

printf("\nPrice :%f\n",b[i].price);

if(b[i].no==b[i+1].no)

break;

}

}

int available(struct book b[ ],int n) //available books

{

int i,j,count=0,size;

printf("\nEnter no.of available books:");

scanf("%d",&size);

int available[size];

printf("\nEnter available books numbers:");

for (i=0;i<size;i++)

{

scanf("%d",&available[i]);

}

printf("\n------Available Books Details------\n");

for(i=0;i<n;i++)

{

for(j=0;j<n;j++)

{

if(b[i].no==available[j])

{

printf("\nBook %d details:\n",i+1);

printf("\nBook no :%d",b[i].no);

printf("\nTitle :%s",b[i].title);

printf("\nAuthor :%s",b[i].author);

printf("\nPrice :%f\n",b[i].price);

count++;

}

}

}

printf("\nNo.of available books :%d\n ",count);

}

int based\_on\_title(struct book b[ ],int n) //searching a book based on title

{

char title[20];

int i,j;

printf("\n---Searching a book by its title---\n");

printf("\nEnter book title:");

scanf("%s",title);

printf("\n------Your searched book Details------\n");

for(i=0;i<n;i++)

{

if(strcmp(b[i].title,title)==0)

{

printf("\nBook %d details:\n",i+1);

printf("\nBook no :%d",b[i].no);

printf("\nTitle :%s",b[i].title);

printf("\nAuthor :%s",b[i].author);

printf("\nPrice :%f\n",b[i].price);

}

}

}

int update\_book(struct book b[ ],int n) //update a book

{

int i,u;

printf("\n------Book updation------\n");

printf("\nEnter a book number to update:");

scanf("%d",&u); //u=updating book number

printf("\n-------Enter new book details------\n");

printf("\nEnter book no:");

scanf("%d",&b[u-1].no);

printf("Enter title:");

scanf("%s",&b[u-1].title);

printf("Enter Author name:");

scanf("%s",&b[u-1].author);

printf("Enter price:");

scanf("%f",&b[u-1].price);

printf("\n------Books Details after updation------\n");

print(b,n);

}

int copies(struct book b[ ],int n) //available no.of copies for a book

{

int i,j,c[20],size;

for(i=0;i<n;i++)

{

printf("\nEnter available copies for this book:'%s':",b[i].title);

scanf("%d",&c[i]);

}

printf("\n------No.of copies available for a book title------\n");

for(i=0;i<n;i++)

{

printf("\nAvailable copies for this book:'%s'' is %d",b[i].title,c[i]);

}

}

int delete\_book(struct book b[ ],int n) //deleting a book

{

int i,j,pos;

printf("\n------Deleting a book------\n");

printf("\nEnter book position to delete:");

scanf("%d",&pos); //d=deleting position

if(pos>=n+1)

{

printf("\nInvalid position:deletion not possible\n");

}

else

{

for(i=pos-1;i<n-1;i++)

{

b[i].no = b[i+1].no;

strcpy(b[i].title,b[i+1].title);

strcpy(b[i].author,b[i+1].author);

b[i].price = b[i+1].price;

}

}

printf("\n-------Books details after deletion-------\n");

for(i=0;i<n-1;i++)

{

printf("\nBook %d details:\n",i+1);

printf("\nBook no :%d",b[i].no);

printf("\nTitle :%s",b[i].title);

printf("\nAuthor :%s",b[i].author);

printf("\nPrice :%f\n",b[i].price);

}

return n-1;

}

int insert\_by\_pos(struct book b[ ],int n) //inserting at specified position

{

int i,j,pos;

printf("\nEnter position to insert a book details:");

scanf("%d",&pos);

for(i=n;i>=pos-1;i--)

{

b[i+1].no=b[i].no;

strcpy(b[i+1].title,b[i].title);

strcpy(b[i+1].author,b[i].author);

b[i+1].price=b[i].price;

}

printf("Enter book no:");

scanf("%d",&b[pos-1].no);

printf("Enter title:");

scanf("%s",b[pos-1].title);

printf("Enter Author name:");

scanf("%s",b[pos-1].author);

printf("Enter price:");

scanf("%f",&b[pos-1].price);

printf("\n------Books Details after inserting at specified position------\n");

for(i=0;i<=n;i++)

{

printf("\nBook %d details:\n",i+1);

printf("\nBook no :%d",b[i].no);

printf("\nTitle :%s",b[i].title);

printf("\nAuthor :%s",b[i].author);

printf("\nPrice :%f\n",b[i].price);

}

return n+1;

}

int numberwise(struct book b[ ],int n) //books details-book numberwise

{

int i,j,temp;

char tem[20];

for(j=0;j<n-1;j++)

{

for(i=0;i<n-1;i++)

{

if(b[i].no>b[i+1].no)

{

temp=b[i].no;

b[i].no=b[i+1].no;

b[i+1].no=temp;

strcpy(tem,b[i].title);

strcpy(b[i].title,b[i+1].title);

strcpy(b[i+1].title,tem);

strcpy(tem,b[i].author);

strcpy(b[i].author,b[i+1].author);

strcpy(b[i+1].author,tem);

temp=b[i].price;

b[i].price=b[i+1].price;

b[i+1].price=temp;

}

}

}

printf("-------Books details-books numberwise-------");

for(i=0;i<n;i++)

{

printf("\nBook %d details:\n",i+1);

printf("\nBook no :%d",b[i].no);

printf("\nTitle :%s",b[i].title);

printf("\nAuthor :%s",b[i].author);

printf("\nPrice :%f\n",b[i].price);

}

}