#include <stdio.h>

#include <ctype.h>

#include <stdlib.h>

#include <string.h>

int N;

struct book\_data

{

char book\_name[100];

char author[100];

char publisher\_name[100];

int version;

int publishing\_year;

double price;

};

void display(struct book\_data val[])

{

printf("\nBook\tAuthor\tVersion\tYear\tPrice\tPublisher\n");

printf("-------------------------------------------------");

for (int ctr = 0; ctr < N; ctr++)

{

printf("\n%s\t%s\t%d\t%d\t%.2lf\t%s", val[ctr].book\_name, val[ctr].author, val[ctr].version, val[ctr].publishing\_year, val[ctr].price, val[ctr].publisher\_name);

}

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

}

void get\_details\_of\_author(struct book\_data s[N], char given\_author[])

{

int count = 0;

char written\_book[N][100];

for (int ctr = 0; ctr < N; ctr++)

{

if (!strcmp(s[ctr].author, given\_author))

{

strcpy(written\_book[count], s[ctr].book\_name);

count++;

}

}

if (count == 0)

{

printf("\nThere is no details about Author...\n");

}

else

{

printf("\nThere are %d books written by %s\n", count, given\_author);

printf("\nThe Books written by %s are : ", given\_author);

for (int ctr = 0; ctr < count; ctr++)

{

printf("\n%d.%s", ctr + 1, written\_book[ctr]);

}

}

}

void get\_sort\_by\_price(struct book\_data s[N])

{

struct book\_data temp[N];

for (int ctr = 0; ctr < N; ctr++)

{

temp[ctr] = s[ctr];

}

for (int ctr = 0; ctr < N; ctr++)

{

for (int inr = ctr + 1; inr < N; inr++)

{

if (temp[ctr].price > temp[inr].price)

{

struct book\_data curr = temp[ctr];

temp[ctr] = temp[inr];

temp[inr] = curr;

}

}

}

printf("\nThe details sorted by price :\n");

display(temp);

}

void get\_publisher\_details(struct book\_data s[N], char given\_publisher[], int given\_year)

{

char written\_book[N][100];

int count = 0;

for (int ctr = 0; ctr < N; ctr++)

{

if (!(strcmp(s[ctr].publisher\_name, given\_publisher)) && s[ctr].publishing\_year == given\_year)

{

strcpy(written\_book[count], s[ctr].book\_name);

count++;

}

}

if (count == 0)

{

printf("\nThere is no book published by %s in %d\n", given\_publisher, given\_year);

}

else

{

printf("\nThe books published by %s in %d are : \n", given\_publisher, given\_year);

for (int ctr = 0; ctr < count; ctr++)

{

printf("\n%d.%s", ctr + 1, written\_book[ctr]);

}

}

}

void get\_sort\_by\_author\_and\_year(struct book\_data s[N])

{

struct book\_data temp[N];

for (int ctr = 0; ctr < N; ctr++)

{

temp[ctr] = s[ctr];

}

for (int ctr = 0; ctr < N; ctr++)

{

for (int inr = ctr + 1; inr < N; inr++)

{

int check = strcmp(temp[ctr].author, temp[inr].author);

if (check > 0)

{

struct book\_data curr = temp[ctr];

temp[ctr] = temp[inr];

temp[inr] = curr;

}

else if (check == 0)

{

if (temp[ctr].publishing\_year > temp[inr].publishing\_year)

{

struct book\_data curr = temp[ctr];

temp[ctr] = temp[inr];

temp[inr] = curr;

}

}

}

}

printf("\nThe details sorted by author and year :\n");

display(temp);

}

int main()

{

printf("Welcome to Book Application\n");

printf("\nEnter the total number of book details\n");

scanf("%d", &N);

struct book\_data book[N];

for (int ctr = 0; ctr < N; ctr++)

{

printf("\nEnter the book name for book %d : ", ctr + 1);

scanf("%s", book[ctr].book\_name);

printf("Enter the author name for book %d : ", ctr + 1);

scanf("%s", book[ctr].author);

printf("Enter version number for book %d : ", ctr + 1);

scanf("%d", &(book[ctr].version));

printf("Enter published year for book %d : ", ctr + 1);

scanf("%d", &(book[ctr].publishing\_year));

printf("Enter the book price for book %d : ", ctr + 1);

scanf("%lf", &(book[ctr].price));

printf("Enter the publisher for book %d : ", ctr + 1);

scanf("%s", book[ctr].publisher\_name);

}

char option;

char given\_author[100];

char given\_publisher[100];

int given\_year;

while (1)

{

printf("\n\nEnter Your choice a / b / c / d / q : ");

scanf("%s", &option);

option = tolower(option);

switch (option)

{

case 'a':

printf("\nEnter author name : ");

scanf("%s", given\_author);

get\_details\_of\_author(book, given\_author);

break;

case 'b':

get\_sort\_by\_price(book);

break;

case 'c':

printf("\nEnter publisher name : ");

scanf("%s", given\_publisher);

printf("\nEnter the year : ");

scanf("%d",&given\_year);

get\_publisher\_details(book, given\_publisher, given\_year);

break;

case 'd':

get\_sort\_by\_author\_and\_year(book);

break;

case 'q':

printf("\nQuiting the application..... \nThank you for visiting !!!!!");

exit(0);

break;

default:

printf("\nPlease enter a valid option !!! ");

break;

}

}

return 0;

}