Problem Statement Solution Submission

C program to create a list of software application details

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PROBLEM STATEMENT

Write a C program to create a list of software application details. The details of application include name, author, version, publishing year , price.

Perform the following with respect to the list of application created.

- a) Display all the details of application by a given author.

- b) Sort the details of application in the increasing order of price.

- c) Display the details of applications published by a given publisher in a given year.

- d) Sort the list of applications in the increasing order of two fields , author and publishing year of the books.

SOFTWARE USED

❖ C Programming Language

ALGORITHM

- STEP1 :Start
- STEP2 :Initialize the structure with corresponding variables
- STEP3 :Under the main function get the input variables to perform the regarding operation
- STEP4 :Write the displaying statement for switch case
- STEP5 :Under the case 1 the user input author name will be compared with the entered application
- STEP6 :With the help of if condition the application will be displayed if it is present

- STEP7 :Under case 2 the sorting process takes place to sort the cost of applications
- STEP8 :In the case 3 the year will be get as user input and then the regarding application will be printed
- STEP9 :The author name and year will be get us user input in the case 4 and the regarding application will be shown
- STEP10 :publication year will be sorted with the given author name under the case 5
- STEP11 :All the books will be displayed in case 6
- STEP12 :Stop.

EXPLANATION

STRUCTURE

```
struct book
{
    int bcost,bversion, byears;

    char bname[20],bauthor[20], byear[20];

}p[10];
```

Here in this structure the needed Variables were declared

SWITCH CASE

```
switch(ch)
{
    case 1:
        printf("Enter Author Name : ");
        scanf("%s",authorname);
        int exists=0;
        for(i=0;i<n;i++)
        {
            if(strcmp(p[i].bauthor,authorname)==0){
                printf("\nApplication Name\t:\t%s\nAut
                exists=1;
            }
        }
        if(!exists){
            printf("Applications are not availabl
        }
    break;
```

Here in this **case 1** applications will be displayed with the given author name

CASE-2

```
case 2:
    for(int i=0;i<n;i++)
    {
    for(int j=0;j<n-1;j++,t++)
    {
    if(p[j].bcost>p[j+1].bcost)
    {
    t=p[j].bcost;
    p[j].bcost=p[j+1].bcost;
    p[j+1].bcost=t;
    }
    }
    }
    for(i=0;i<n;i++)
    {
        printf("\nApplication Name\t:\
    }
    break;
```

In this case 2 the cost price will be sorted and displayed

CASE 3

```
case 3:
    printf("Enter year: ");
    scanf("%s",year);
    exists=0;
    for(i=0;i<n;i++)
    {
    if(strcmp(p[i].byear,year)==0){
            printf("\nApplication Name\t:
            exists=1;
    }
    }
    if(!exists)
    {
        printf("Applications are not avai
    }
    break;
```
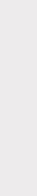
Under the **Case 3** the year of the application will be get as user input and the regarding year book will be displayed

CASE 4

```
case 4:
    printf("Enter Author Name : ");
    scanf("%s",authorname);
    printf("Enter year: ");
    scanf("%s",year);
    exists=0;
    for(i=0;i<n;i++)
    {
        if((strcmp(p[i].bauthor,authorname)==0)&&(strcmp(p[i].byear,year)==0))
        {
            printf("\nApplication Name\t:\t%s\nAuthor name\t\t:\t%s\nVersion of a
            exists=1;
        }
    }
    if(!exists)
    {
        printf("Books are not available for the given author and year");
    }
    break;
```

Here the author name and the year will be received as user input and then the available applications were displayed

CASE 5

```
case 5:
    printf("Enter Author Name : ");
    scanf("%s",authorname);
    exists=0;
    int byears=atoi(p[i].byear);
    for(i=0;i<n;i++)
    {
        if(strcmp(p[i].bauthor,authorname)==0){
            for(int j=0;j<n-1;j++,t++)
            {
            if(p[j].byears>p[j+1].byears)
            {
            t=p[j].byears;
            p[j].byears=p[j+1].byears;
            p[j+1].byears=t;
            }
            }
            printf("\nApplication Name\t:\t%s\nAut
            exists=1;
        }
    }
    if(!exists)
    {
        printf("Applications are not available for
    }
    break;
```

In this case 5 the author name will be received as a input and the year of the same author application will be sorted

CASE 6

```
case 6:
    for(i=0;i<n;i++)
    {
        printf("Application Name\t:\t%s \n",p[i].bname);
        printf("Author\t\t\t:\t%s\n",p[i].bauthor);
        printf("Version of application\t:\t%d\n",p[i].bversion);
        printf("Year\t\t\t:\t%s\n",p[i].byear);
        printf("Application Cost\t:\t%d\n",p[i].bcost);
        printf("\n---------------------------------------\n");
    }
    break;
```

All of the available applications were printed here in this case 6

SAMPLE INPUT

```
Enter Limit : 2
-------------------------------------------------
         Enter Details of Application-1
-------------------------------------------------
Application Name : Amazon
Author Name : JeffBezos
version of application : 4
Year : 1994
Cost of application : 1000000
-------------------------------------------------
         Enter Details of Application-2
-------------------------------------------------
Application Name : zoom
Author Name : EricYuan
version of application : 4
Year : 2011
Cost of application : 500000
-------------------------------------------------
```

SAMPLE OUTPUT

CASE 1

```
Enter Your Choice : 1

Enter Author Name : EricYuan

Application Name        :       zoom
Author name             :       EricYuan
Version of application  :       4
Year                    :       2011
Cost of application     :       500000
```

CASE 2

```
----------------------------------------------------
Enter Your Choice : 2

Application Name        :       Amazon
Author name             :       JeffBezos
Version of application  :       4
Year                    :       1994
Cost of application     :       500000

Application Name        :       zoom
Author name             :       EricYuan
Version of application  :       4
Year                    :       2011
Cost of application     :       1000000
```

CASE 3


```
Enter Your Choice : 3


Enter year: 1994


Application Name       :       Amazon
Author name            :       JeffBezos
Version of application :       4
Year                   :       1994
Cost of application    :       500000
```

CASE 4


```
Enter Your Choice : 4


Enter Author Name : EricYuan
Enter year: 2011


Application Name       :       zoom
Author name            :       EricYuan
Version of application :       4
Year                   :       2011
Cost of application    :       1000000
```

CASE 5

```
Enter Your Choice : 5

Enter Author Name : JeffBezos

Application Name        :       Amazon
Author name             :       JeffBezos
Version of application  :       4
Year                    :       1994
Cost of application     :       500000
```

CASE 6

```
Enter Your Choice : 6

Application Name        :       Amazon
Author                  :       JeffBezos
Version of application  :       4
Year                    :       1994
Application Cost        :       500000
------------------------------------------
Application Name        :       zoom
Author                  :       EricYuan
Version of application  :       4
Year                    :       2011
Application Cost        :       1000000
------------------------------------------
```

THANK YOU