

```
#define _CRT_SECURE_NO_WARNINGS
```

```
#include <stdio.h>
```

```
#include <stdlib.h>
```

```
#include<string.h>
```

```
#define Maxsize 100
```

```
typedef struct parts {
```

```
    int partnumber;
```

```
    char partname[Maxsize];
```

```
    int partquantity;
```

```
}Parts;
```

```
int num_parts = 0,count=1;
```

```
void InitParts(Parts parts[]);
```

```
void InsertParts(Parts parts[]);
```

```
void SearchParts(Parts parts[]);
```

```
void UpdataParts(Parts parts[]);
```

```
void DeleteParts(Parts parts[]);
```

```
void PrintParts(Parts parts[]);
```

```
int main()
{
    Parts* parts = (Parts*)malloc(sizeof(Parts) *
10);

    InitParts(parts);
    char code = 0;
    do
    {
        printf("Enter operation code:");
        scanf(" %c", &code);
        switch (code)
        {
            case 'i':InsertParts(parts); break;
            case 's':SearchParts(parts); break;
            case 'u':UpdataParts(parts); break;
            case 'p':PrintParts(parts); break;
            case 'd':DeleteParts(parts); break;
            case 'q':break;
            default:break;
        }

        if (num_parts > 10)
        {
```

```

        count++;

        parts =
(Parts*)realloc(parts,sizeof(Parts) * 10*count);

        InitParts(parts);

    }

} while (code != 'q');

free(parts);

return 0;
}

```

```

void InitParts(Parts parts[])
{
    int i = 0;
    for (i = (count-1)*10; i< count*10; i++)
    {
        parts[i].partnumber = 0;
        parts[i].partquantity = 0;
        char partname[Maxsize] = { '\0' };
        strcpy(&parts[i].partname, partname);
    }
}

```

```
}
```

```
void InsertParts(Parts parts[])
```

```
{
```

```
    printf("Enter part number:");
```

```
    scanf("%d", &parts[num_parts].partnumber);
```

```
    printf("Enter part name:");
```

```
    getchar();
```

```
    gets(&parts[num_parts].partname);
```

```
    printf("Enter quantity on hand:");
```

```
    scanf("%d", &parts[num_parts].partquantity);
```

```
    num_parts++;
```

```
}
```

```
void SearchParts(Parts parts[])
```

```
{
```

```
    int num = 0,i=0;
```

```
    printf("Enter part number:");
```

```
    scanf("%d", &num);
```

```
    while (parts[i].partnumber!=num&&
```

```
parts[i].partnumber != 0)
```

```
    {
```

```
        i++;

    }

    if (parts[i].partnumber != 0)
    {
        printf("Part name :%s\n",
parts[i].partname);
        printf("Quantity on hand:%d\n",
parts[i].partquantity);
    }
    else
    {
        printf("Part not found.\n");
    }
}

void UpdataParts(Parts parts[])
{
    int num = 0,q=0,i=0;

    printf("Enter part number:");

    scanf("%d", &num);
```

```

        while (parts[i].partnumber != num&&
parts[i].partnumber!=0)
        {
            i++;
        }
        if (parts[i].partnumber != 0)
        {
            printf("Enter change in quantity on
hand:");
            scanf("%d", &q);
            parts[i].partquantity += q;
        }
        else
        {
            printf("Error! It is not in the
database!\n");
        }
    }

void PrintParts(Parts parts[])
{

```

```

    printf("Part Number Part Name Quantity on
Hand\n");

    int i = 0;
    while (parts[i].partnumber != 0)
    {
        printf("%d          %s          %d\n",
parts[i].partnumber, parts[i].partname,
parts[i].partquantity);
        i++;
    }
}

void DeleteParts(Parts parts[])
{
    int num = 0, i = 0;
    printf("Enter the part number you want to
delete:");
    scanf("%d", &num);
    while (parts[i].partnumber != num &&
parts[i].partnumber != 0)
    {
        i++;
    }
}

```

```
}  
  
if (parts[0].partnumber == 0)  
{  
    printf("Error!The database is empty!\n");  
}  
  
else if(parts[i].partnumber == 0)  
{  
    printf("Error!The part is not in the  
database!\n");  
}  
  
else  
{  
    while (parts[++i].partnumber == 0)  
    {  
        parts[i- 1] = parts[i];  
    }  
    num_parts--;  
}  
}
```



```
Microsoft Visual Studio 调试
Enter operation code:i
Enter part number:528
Enter part name:Disk Drive
Enter quantity on hand:10
Enter operation code:s
Enter part number:528
Part name :Disk Drive
Quantity on hand:10
Enter operation code:s
Enter part number:1004
Part not found.
Enter operation code:i
Enter part number:914
Enter part name:Printer cable
Enter quantity on hand:5
Enter operation code:u
Enter part number:528
Enter change in quantity on hand:-2
Enter operation code:p
Part Number Part Name Quantity on Hand
528      Disk Drive      8
914      Printer cable    5
Enter operation code:q

C:\Users\smlie\我的云端硬盘\Electrical Engineering\2023? 2??\????????(??)\Lab&HW\HW12\Project1\x64\Debug\Project1.exe (
进程 12432)已退出，代码为 0。
按任意键关闭此窗口...
```

```
#define _CRT_SECURE_NO_WARNINGS
#include <stdio.h>
#include <stdlib.h>
#include<string.h>

#define Maxsize 100

typedef struct parts {
    int partnumber;
    char partname[Maxsize];
    int partquantity;
    char category[25];
}Parts;

int num_parts = 0, count = 1;

void InitParts(Parts parts[]);
void InsertParts(Parts parts[]);
void SearchParts(Parts parts[]);
void UpdataParts(Parts parts[]);
void DeleteParts(Parts parts[]);
void PrintParts(Parts parts[]);

int main()
{
    Parts* parts = (Parts*)malloc(sizeof(Parts) * 10);
    InitParts(parts);
    char code = 0;
    do
```

```

{
    printf("Enter operation code:");
    scanf(" %c", &code);
    switch (code)
    {
        case 'i':InsertParts(parts); break;
        case 's':SearchParts(parts); break;
        case 'u':UpdataParts(parts); break;
        case 'p':PrintParts(parts); break;
        case 'd':DeleteParts(parts); break;
        case 'q':break;
        default:break;
    }
    if (num_parts > 10)
    {
        count++;
        parts = (Parts*)realloc(parts, sizeof(Parts) * 10 * count);
        InitParts(parts);
    }
} while (code != 'q');

free(parts);

return 0;
}

void InitParts(Parts parts[])
{
    int i = 0;
    for (i = (count - 1) * 10; i < count * 10; i++)
    {
        parts[i].partnumber = 0;
        parts[i].partquantity = 0;
        char partname[Maxsize] = { '\0' };
        strcpy(&parts[i].partname, partname);
        strcpy(&parts[i].category, partname);
    }
}

void InsertParts(Parts parts[])
{
    printf("Enter part number:");
    scanf("%d", &parts[num_parts].partnumber);
    printf("Enter part name:");

```

```

        getchar();
        gets(&parts[num_parts].partname);
        printf("Enter category:");
        gets(&parts[num_parts].category);
        printf("Enter quantity on hand:");
        scanf("%d", &parts[num_parts].partquantity);
        getchar();
        num_parts++;
    }

void SearchParts(Parts parts[])
{
    int num = 0, i = 0;
    printf("Enter part number:");
    scanf("%d", &num);
    while (parts[i].partnumber != num && parts[i].partnumber != 0)
    {
        i++;
    }
    if (parts[i].partnumber != 0)
    {
        printf("Part name :%s\n", parts[i].partname);
        printf("Category name :%s\n", parts[i].category);
        printf("Quantity on hand:%d\n", parts[i].partquantity);
    }
    else
    {
        printf("Part not found.\n");
    }
}

void UpdataParts(Parts parts[])
{
    int num = 0, q = 0, i = 0;
    printf("Enter part number:");
    scanf("%d", &num);

    while (parts[i].partnumber != num && parts[i].partnumber != 0)
    {
        i++;
    }
    if (parts[i].partnumber != 0)
    {

```

```

        printf("Enter change in quantity on hand:");
        scanf("%d", &q);
        parts[i].partquantity += q;
    }
    else
    {
        printf("Error! It is not in the database!\n");
    }
}

void PrintParts(Parts parts[])
{
    printf("Part Number    Part Name Category name Quantity on Hand\n");
    int i = 0;
    while (parts[i].partnumber != 0)
    {
        printf("%d          %s          %s          %d\n",
parts[i].partnumber, parts[i].partname,
parts[i].category,parts[i].partquantity);
        i++;
    }
}

void DeleteParts(Parts parts[])
{
    int num = 0, i = 0;
    printf("Enter the part number you want to delete:");
    scanf("%d", &num);
    while (parts[i].partnumber != num && parts[i].partnumber != 0)
    {
        i++;
    }
    if (parts[0].partnumber == 0)
    {
        printf("Error!The database is empty!\n");
    }
    else if (parts[i].partnumber == 0)
    {
        printf("Error!The part is not in the database!\n");
    }
    else
    {
        while (parts[++i].partnumber == 0)

```

```

    {
        parts[i - 1] = parts[i];
    }
    num_parts--;
}
}

```

```

Microsoft Visual Studio 调试
Enter operation code:i
Enter part number:528
Enter part name:Disk drive
Enter category:Computer
Enter quantity on hand:10
Enter operation code:s
Enter part number:528
Part name :Disk drive
Category name :Computer
Quantity on hand:10
Enter operation code:p
Part Number    Part Name  Category name  Quantity on Hand
528            Disk drive    Computer       10
Enter operation code:q

C:\Users\smile\我的云端硬盘\Electrical Engineering\2023? 2??\????????(??)\Lab&HW\HW12\Project1\x64\Debug\Project1.exe (
进程 18304)已退出, 代码为 0。
按任意键关闭此窗口. . .|

```

```

#define _CRT_SECURE_NO_WARNINGS

#include <stdio.h>

#include <stdlib.h>

#include<string.h>

#define Maxsize 100

typedef struct parts {
    int partnumber;
    char partname[Maxsize];
    int partquantity;

```

```
    char category[25];
}Parts;

int num_parts = 0, count = 1;

void InitParts(Parts parts[]);
void InsertParts(Parts parts[]);
void SearchParts(Parts parts[]);
void UpdataParts(Parts parts[]);
void DeleteParts(Parts parts[]);
void ChangeParts(Parts parts[]);
void PrintParts(Parts parts[]);

int main()
{
    Parts* parts = (Parts*)malloc(sizeof(Parts) *
10);

    InitParts(parts);

    char code = 0;

    do
    {
        printf("Enter operation code:");
```

```
scanf(" %c", &code);
switch (code)
{
    case 'i':InsertParts(parts); break;
    case 's':SearchParts(parts); break;
    case 'u':UpdataParts(parts); break;
    case 'p':PrintParts(parts); break;
    case 'd':DeleteParts(parts); break;
    case 'c':ChangeParts(parts); break;
    case 'q':break;
    default:break;
}

if (num_parts > 10)
{
    count++;
    parts = (Parts*)realloc(parts,
sizeof(Parts) * 10 * count);
    InitParts(parts);
}

} while (code != 'q');

free(parts);
```

```

        return 0;
    }

void InitParts(Parts parts[])
{
    int i = 0;
    for (i = (count - 1) * 10; i < count * 10;
i++)
    {
        parts[i].partnumber = 0;
        parts[i].partquantity = 0;
        char partname[Maxsize] = { '\0' };
        strcpy(&parts[i].partname, partname);
        strcpy(&parts[i].category, partname);
    }
}

void InsertParts(Parts parts[])
{
    printf("Enter part number:");
    scanf("%d", &parts[num_parts].partnumber);

```



```

    printf("Enter part name:");
    getchar();
    gets(&parts[num_parts].partname);
    printf("Enter category:");
    gets(&parts[num_parts].category);
    printf("Enter quantity on hand:");
    scanf("%d", &parts[num_parts].partquantity);
    getchar();
    num_parts++;
}

void SearchParts(Parts parts[])
{
    int num = 0, i = 0;
    printf("Enter part number:");
    scanf("%d", &num);
    while (parts[i].partnumber != num &&
parts[i].partnumber != 0)
    {
        i++;
    }
    if (parts[i].partnumber != 0)

```

```
    {  
        printf("Part name :%s\n",  
parts[i].partname);  
        printf("Category name :%s\n",  
parts[i].category);  
        printf("Quantity on hand:%d\n",  
parts[i].partquantity);  
    }  
    else  
    {  
        printf("Part not found.\n");  
    }  
}
```

```
void UpdataParts(Parts parts[])  
{  
    int num = 0, q = 0, i = 0;  
    printf("Enter part number:");  
    scanf("%d", &num);
```

```
        while (parts[i].partnumber != num &&
parts[i].partnumber != 0)
        {
            i++;
        }
        if (parts[i].partnumber != 0)
        {
            printf("Enter change in quantity on
hand:");
            scanf("%d", &q);
            parts[i].partquantity += q;
        }
        else
        {
            printf("Error! It is not in the
database!\n");
        }
    }

void PrintParts(Parts parts[])
{
```

```

        printf("Part Number      Part Name Category name
Quantity on Hand \n");

    int i = 0;
    while (parts[i].partnumber != 0)
    {
        printf("%d          %s          %s
%d\n", parts[i].partnumber,
parts[i].partname, parts[i].category,
parts[i].partquantity);
        i++;
    }
}

void DeleteParts(Parts parts[])
{
    int num = 0, i = 0;
    printf("Enter the part number you want to
delete:");
    scanf("%d", &num);
    while (parts[i].partnumber != num &&
parts[i].partnumber != 0)
    {

```

```
        i++;
    }
    if (parts[0].partnumber == 0)
    {
        printf("Error!The database is empty!\n");
    }
    else if (parts[i].partnumber == 0)
    {
        printf("Error!The part is not in the
database!\n");
    }
    else
    {
        while (parts[++i].partnumber == 0)
        {
            parts[i - 1] = parts[i];
        }
        num_parts--;
    }
}

void ChangeParts(Parts parts[])
```

```
{  
    int num = 0, i = 0;  
    printf("Enter part number:");  
    scanf("%d", &num);  
    printf("Enter the new Part Name:");  
    getchar();  
    char newpartname[Maxsize];  
    gets(newpartname);  
    while (parts[i].partnumber != num &&  
parts[i].partnumber != 0)  
    {  
        i++;  
    }  
    if (parts[i].partnumber != 0)  
    {  
        strcpy(&parts[i].partname, newpartname);  
    }  
    parts = (Parts*)realloc(parts, sizeof(Parts) *  
10 * count);  
}
```

```
Microsoft Visual Studio 调试
Enter operation code:i
Enter part number:528
Enter part name:Disk drive
Enter category:Computer
Enter quantity on hand:10
Enter operation code:i
Enter part number:914
Enter part name:Printer cable
Enter category:Printer
Enter quantity on hand:5
Enter operation code:p
Part Number    Part Name Category name Quantity on Hand
528            Disk drive      Computer          10
914            Printer cable    Printer           5
Enter operation code:c
Enter part number:914
Enter the new Part Name:Printer ink
Enter operation code:p
Part Number    Part Name Category name Quantity on Hand
528            Disk drive      Computer          10
914            Printer ink      Printer           5
Enter operation code:q

C:\Users\smile\我的云端硬盘\Electrical Engineering\2023? 2??\????????(??)\Lab&HW\HW12\Project1\x64\Debug\Project1.exe (
进程 40584)已退出，代码为 0。
按任意键关闭此窗口...|
```