```c
#include<stdio.h>
#include<string.h>
#include<stdlib.h>
int search(int);
int display();
int back();
int check(int);
int value=0;
struct node {
    int ID;
    char proName[100];
    double prePrice;
    int quantity;
struct    node* next;
};
struct node *head=NULL;
 void beg()
{
    system("cls");
    int id,quant;
    char name[100];
    double pre;
    struct node *t =(struct node*) malloc(sizeof(struct node));

    printf("\t\t\tEnter product ID:-");
    scanf("%d",&id);
    t->ID=id;
    printf("\t\t\tEnter product Name:-");
    scanf("%s",name);
    for(int i=0;i<100;i++){
    t->proName[i]=name[i];}
    printf("\t\t\tEnter product price:-");
    scanf("%lf",&pre);
    t->prePrice=pre;
    printf("\t\t\tEnter product quantity:-");
    scanf("%d",&quant);
    t->quantity=quant;
    t->next=head;
    head=t;
    system("cls");
        printf("\n\n\t\t\t\tThis product is Inserted!\n\n\n");
    }
    void end()
    {
    system("cls");
    int id,quant;
    char name[100];
    double pre;
    struct node *t=(struct node*) malloc(sizeof(struct node));
    struct node *p=head;
    printf("\t\t\tEnter product ID:-");
    scanf("%d",&id);
    t->ID=id;
    printf("\t\t\tEnter product Name:-");
    scanf("%s",name);
    for(int i=0;i<100;i++){
    t->proName[i]=name[i];}
    printf("\t\t\tEnter product price:-");
    scanf("%lf",&pre);
    t->prePrice=pre;
    printf("\t\t\tEnter product quantity:-");
    scanf("%d",&quant);
    t->quantity=quant;
        while(p->next!=NULL)
        {
        p=p->next;
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        }
            p->next=t;
            t->next=NULL;
        system("cls");
        printf("\n\n\t\t\t\tThis product is Inserted!\n\n\n");
    }
    void delPro()
    {
        system("cls");
        display();
        int id;
        struct node *cur=head;
        struct node *pre=head;
        printf("\n\nEnter ID to delete that product:\n\n");
        scanf("%d",&id);
         if (head == NULL)
        {
            system("cls");
            printf("List is empty\n");
        }
    int pos=0;
    int count=display();
    pos=search(id);
    if(pos<=count){

        while(cur->ID!=id){
            pre=cur;
            cur=cur->next;
}
        pre->next=cur->next;
        system("cls");
        printf("\n<<item is deleted>>\n");
    }else{
        printf("\n<<<Not found>>\n\n");
    }
    }
    void modify(){
        int id;
        double pre;
        char pName[100];
        if (head == NULL)
    {
        system("cls");
        printf("List is empty\n");
    }else
    {
        printf("\n\nEnter ID to modify product Name and its price:\n");
        scanf("%d",&id);
        struct node *cur=head;
        int pos=0;
        int count=display();
    pos=search(id);
    if(pos<=count){

        while(cur->ID!=id){
            cur=cur->next;
        }
        printf("\nOld Name : ");
        printf("%s",cur->proName);
        printf("\nOld Price : ");
        printf("%lf\n",cur->prePrice);
        printf("Enter new Name: ");
        scanf("%s",pName);
        for(int i=0;i<100;i++){
        cur->proName[i]=pName[i];}
        printf("Enter new Price:");
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        scanf("%lf",&pre);
        cur->prePrice=pre;
    }else{
        printf("%d is <<Not found>>\n\n",id);
    }
    }
}
int display(){
        system("cls");
        int c=0;
        struct node *p=head;
        printf("Existing products are:\n");
        printf("ID\t\tProduct Name\t\tPrice\t\tQuantity\n");
        while(p!=NULL)
        {
            printf("%d\t\t%s\t\t\t%lf\t",p->ID,p->proName,p->prePrice);
            if(check(p->quantity)<=0)
                printf("OUT OF STOCK!\n");
            else
                printf("%d\n",check(p->quantity));
            p=p->next;
            c=c+1;
        }
        printf("\nTotal products in our store is : %d\n\n\n",c);
        return c;
        }
int check(int quant){
    int a = quant;
        if(quant<=0)
            return 0;
        else
            return quant;
        }
void buy(){
        system("cls");
        int pay=0,no,price,id,i=1;
    if(head==NULL) {
        printf("\n<<<<There is no items to buy>>>>\n\n");
    }
    else{
        printf("How many items you want to buy!\n");
        scanf("%d",&no);
            int count=display();
    while (i<=no){
        struct node *cur=head;

        int quant;
        printf("Enter id of item that you want to buy: ");
        int id,pos=0;
        scanf("%d",&id);
        pos=search(id);
        if(pos<=count){

        while(cur->ID!=id){
            cur=cur->next;
        }
        printf("How many quantities you want:");
        scanf("%d",&quant);
        pay=pay+(cur->prePrice*quant);
        cur->quantity=cur->quantity-quant;
        i++;
        printf("\n\n\t\t\tYou have bought : ");
        printf("%s\n\n",cur->proName);
    }
    else{
        printf("\n<<<<<<<<<<This item is not available in our store at this time>>>>\n\n");
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        }
}
}
    price=pay*(0.90);
    printf("\n\n\t\t\t\t\tOriginal price : %d\n",pay);
    printf("\t\t\t\t\twith 10 percent discount:   %d\n\t\t\t\t\tThank you! for the shopping\n\n",price);
}


    int search(int id)
 {
    int count=1;
    struct node *p=head;
    while(p!=NULL)
    {
        if(p->ID==id)
            break;
        else
            count++;
            p=p->next;
    }
    return count;
 }
 int back()
 {
     int no,i=1,give=0;
     printf("How many items you want to return!\n");
        scanf("%d",&no);
        int count=display();
        while (i<=no){
            struct node *cur=head;
            int quant,cho;
    printf("Enter the id of product you want to return");
    int id,pos=0;
    scanf("%d",&id);
    pos=search(id);
    if(pos<=count){

        while(cur->ID!=id){
            cur=cur->next;
        }
    printf("\n\nHow many quantities you want to return\n\n");
    scanf("%d",&quant);
    give=give+(cur->prePrice*quant);
    cur->quantity=cur->quantity+quant;
    i++;
    }
        }
        printf("\n\n\t\t\t\tYou will get %d rs back",give);
 }

int main(){
    int flag,flag1;
    printf("<<<<<<<<<<<<<<<<<<<<<<<   SuperMarket   >>>>>>>>>>>>>>>>>>>\n");
    printf("<<<<<<<<<<<<<<<<<<<<<<<   Store         >>>>>>>>>>>>>>>>>>>\n\n\n");
    int temp=1;
    while(1)
    {
    int cm;
    flag=1;
    flag1=1;
    printf("\t\tEnter 1 for Shopkeeper portal \n\n\t\tEnter 2 for Customer portal\n\n\t\tEnter 0 for exit\n\n");
    printf("*********>>>>>**********>>>>>>>>");
    scanf("%d",&cm);
    switch(cm)
    {
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    case 1 :
    while(flag){
    int ch;
    printf("\t\tEnter 1 for ADD a new product \n\n\t\tEnter 2 to display all products \n\n\t\tEnter 3 for MODIFY
Existing product\n\n");
    printf("\t\tEnter 4 for Delete a particular product item\n\n\t\tEnter 0 for exit\n\n");
    printf("*********>>>>>**********>>>>>>>>");
    scanf("%d",&ch);
    switch(ch){
    case 1:
    if (temp==0){
    end();
    }
    if(temp==1){
    value++;
    beg();
    temp=0;
    }
    break;
    case 2:
    system("cls");
    display();
    break;
    case 3:
    modify();
    break;
    case 4:
    delPro();
    break;
    case 0:
        printf("Exiting...\n");
        flag=0;
        break;
    default:
         system("cls");
         printf("\t\t<<<Wrong choice>>>\n\n");
         break;
    }
    }
break;
case 2:
    while(flag1)
    {
        int cd;
      printf("\n\n\t\tEnter 1 To buy something\n\n\t\tEnter 2 to return something\n\n\t\tEnter 0 for exit\n\n");
      printf("*********>>>>>**********>>>>>>>>");
      scanf("%d",&cd);
       switch(cd)
       {
       case 1 :
           buy();
           break;
       case 2 :
        back();
        break;
       case 0 :
        printf("Exiting...\n");
        flag1 = 0;
        break;
        default: system("cls");
           printf("\t\t<<<Wrong choice>>>\n\n");
           break;
       }
    }break;
    case 0 :
        printf("Exiting...\n");
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        exit(1);
        break;
    default: system("cls");
        printf("\t\t<<<Wrong choice>>>\n\n");
        break;

}
    }
}
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