**SOURCE CODE:**

#include<iostream>

#include<stdio.h>

#include<stdlib.h>

#include<string.h>

#include<fstream>

#include<conio.h>

int pdate;

int pmonth;

int pyear;

using namespace std;

struct date

{

int dd;

int mm;

int yy;

};

struct product

{

char name[20];

int code;

float price;

int quantity;

float totalprice;

product \*next=NULL;

};

class product\_list

{

product \*head, \*tail;

public:

float billprice=0;

product\_list()

{

head=NULL;

tail=NULL;

}

void buy\_product(int code)

{

product \*product1=new product;

if(head==NULL)

{

head=product1;

tail=product1;

}

else

{

tail->next=product1;

tail=product1;

}

product1->code=code;

cout<<" "<<"ENTER THE PRODUCT NAME: ";

cin>>product1->name;

cout<<" "<<"ENTER THE PRICE OF PRODUCT: ";

cin>>product1->price;

cout<<" "<<"QUANTITY OF PRODUCT :";

cin>>product1->quantity;

product1->totalprice=product1->quantity\*product1->price;

}

void modify\_item()

{

int x,codefound,num;

cout<<endl<<" "<<"ENTER THE CODE OF THE PRODUCT TO BE MODIFIED: ";

cin>>x;

product \*index=head;

while(index!=NULL)

{

if(index->code==x)

{

codefound=1;

cout<<endl<<" "<<"Enter the modified quantity: ";

cin>>num;

index->quantity=num;

index->totalprice=index->price\*index->quantity;

cout<<endl<<" "<<"\*\*\*\* QUANTITY MODIFIED\*\*\*\*"<<endl;

getch();

}

index=index->next;

}

if(codefound!=1)

{

cout<<endl<<" "<<"YOU HAVE ENTERED WRONG PRODUCT CODE"<<endl;

getch();

}

}

void delete\_item()

{

int x,itemdelete;

cout<<endl<<" "<<"ENTER THE CODE OF THE PRODUCT TO BE DELETED: ";

cin>>x;

product \*index=head;

product \*index2;

while(index!=NULL)

{

if(index->code==x)

{

itemdelete=1;

if(index==head)

{

index->next=head;

}

else if(index->next==NULL)

{

index2->next=NULL;

}

else

{

\*index2->next=\*index->next;

}

cout<<endl<<" "<<"\*\*\* PRODUCT DELETED \*\*\*"<<endl;

getch();

}

index2=index;

index=index->next;

}

if(itemdelete!=1)

{

cout<<endl<<" "<<"!!! YOU HAVE ENTERED THE WRONG CODE !!!"<<endl;

getch();

}

}

int display()

{

int x,temp;

product \*index=head;

if(head==NULL)

{

temp=1;

cout<<" "<<"!!!! THERE ARE NO PRODUCTS BOUGHT !!!!"<<endl;

}

else

{

temp=0;

cout<<endl<<" "<<"YOUR PRODUCT LIST: "<<endl;

while(index!=NULL)

{

cout<<endl<<" "<<"NAME: "<<"\t"<<index->name<<endl;

cout<<" "<<"CODE: "<<"\t"<<index->code<<endl;

cout<<" "<<"PRICE: "<<"\t"<<index->price<<endl;

cout<<" "<<"QUANTITY: "<<"\t"<<index->quantity<<endl;

index=index->next;

}

}

return temp;

}

int cal\_bill()

{

float finalprice;

product \*index=head;

while(index!=NULL)

{

finalprice+=index->totalprice;

index=index->next;

}

return finalprice;

}

void billdetails()

{

std::ofstream text;

text.open("Bill.txt",std::ofstream::out | std::ofstream::app);

product \*index=head;

while(index!=NULL)

{

text<<index->name;

text<<" "<<index->price<<"\t\t"<<index->quantity<<"\t\t"<<index->price\*index->quantity<<endl;

index=index->next;

}

text.close();

}

};

struct member

{

char name[30];

char name2[30];

int ID;

date joindate;

long long int ph;

char address[50];

int no\_years\_member;

float discount;

int per\_discount;

date present\_date;

product\_list items;

member \*next=NULL;

};

class member\_list

{

member \*head, \*tail;

public:

int idfound;

member\_list()

{

head=NULL;

tail=NULL;

}

void search\_ID(int id)

{

member \*index=head;

while(index!=NULL)

{

if(index->ID==id)

{

cout<<" "<<"!!! THE ID ALREADY EXIST !!!"<<endl;

cout<<" "<<"ENTER A DIFFERENT ID: ";

idfound=1;

}

index=index->next;

}

}

void add\_member()

{

int ch;

int num\_days=0,num\_years=0,discount\_per=0;

member \*member1=new member;

if(head==NULL)

{

head=member1;

tail=member1;

}

else

{

tail->next=member1;

tail=member1;

}

cout<<endl;

cout<<endl;

cout<<" "<<"ENTER THE MEMBER NAME: ";

getchar();

cin>>member1->name;

cin>>member1->name2;

cout<<" "<<"ENTER MEMBER ID: ";

cin>>ch;

search\_ID(ch);

if(idfound==1)

{

cin>>ch;

}

member1->ID=ch;

cout<<" "<<"ENTER JOINING DATE: ";

cout<<"Enter day: ";

cin>>member1->joindate.dd;

cout<<" "<<"Enter month: ";

cin>>member1->joindate.mm;

cout<<" "<<"Enter year: ";

cin>>member1->joindate.yy;

cout<<" "<<"ENTER YOUR ADDRESS: ";

getchar();

gets(member1->address);

cout<<" "<<"ENTER YOUR PHONE NUMBER: ";

cin>>member1->ph;

cout<<endl<<" "<<"\*\*\*\*MEMBER DETAILS UPDATED\*\*\*\*";

getch();

if(pmonth<member1->joindate.mm)

{

pmonth=pmonth+12;

pyear=pyear-1;

}

if(pdate<member1->joindate.dd)

{

pdate=pdate+30;

pmonth=pmonth-1;

}

num\_days=(pdate-member1->joindate.dd)+(pmonth-member1->joindate.mm)\*30+(pyear-member1->joindate.yy)\*365;

num\_years=num\_days/365 +1;

member1->no\_years\_member=num\_years;

if(num\_years>=1 && num\_years<3)

{

discount\_per=5;

}

else if(num\_years>=3 && num\_years<7 )

{

discount\_per=8;

}

else if(num\_years>=7 && num\_years<12)

{

discount\_per=15;

}

else if(num\_years>=12 && num\_years<20)

{

discount\_per=20;

}

else if(num\_years>=20)

{

discount\_per=30;

}

member1->per\_discount=discount\_per;

}

void modify\_memdetails()

{

int userid,x=0,ch;

cout<<endl;

member \*index=head;

cout<<endl<<" "<<"ENTER THE MEMBER ID WHOSE DETAILS NEEDS TO BE MODIFIED: ";

cin>>userid;

cout<<endl<<" "<<"ENTER-> 1.> TO MODIFY ADDRESS"<<endl;

cout<<" "<<" 2.> TO MODIFY PHONE NUMBER"<<endl;;

cout<<endl<<" "<<"ENTER YOUR CHOICE: ";

cin>>ch;

while(index!=NULL)

{

if(index->ID==userid)

{

x=1;

switch(ch)

{

case(1):

{

cout<<endl;

cout<<endl<<" "<<"ENTER THE NEW ADDRESS: ";

cin>>index->address;

cout<<endl;

cout<<endl<<" "<<"==== MEMBER DETAILS MODIFIED ====";

break;

}

case(2):

{

cout<<endl<<" "<<"ENTER NEW PHONE NUMBER: ";

cin>>index->ph;

cout<<endl;

cout<<endl<<" "<<"==== MEMBER DETAILS MODIFIED ====";

break;

}

default :

{

cout<<" "<<"INVALID INPUT"<<endl;

break;

}

}

}

getch();

index=index->next;

}

if(x==0)

{

cout<<" "<<"THERE IS NO MEMBER WITH MEMBER ID"<<endl;

}

}

int search\_memdetails(int id)

{

int x=0;

member \*index=head;

while(index!=NULL)

{

if(index->ID==id)

{

x=1;

return index->per\_discount;

}

index=index->next;

}

if(x==0)

{

cout<<" "<<"THERE IS NO MEMBER WITH MEMBER ID"<<endl;

return 0;

}

}

void delete\_member()

{

int x,temp=0;

cout<<endl<<" "<<"ENTER THE ID OF THE MEMBER TO BE DELETED: ";

cin>>x;

member \*index=head;

member \*index2;

while(index!=NULL)

{

if(index->ID==x)

{

temp=1;

if(index==head)

{

index->next=head;

}

else if(index->next==NULL)

{

index2->next=NULL;

}

else

{

\*index2->next=\*index->next;

}

cout<<endl;

cout<<endl<<" "<<"==== SUCCESFULLY DELETED ====";

getch();

}

index2=index;

index=index->next;

}

if(temp!=1)

{

cout<<endl<<" "<<"!!!! THERE IS NO MEMBER WITH THE GIVEN ID !!!!";

getch();

}

}

int display()

{

int userid,retval1,x=0,y;

member \*index=head;

if(head==NULL)

{

retval1=1;

cout<<endl<<" "<<"\*\*\*\* THERE IS NO MEMBER IN THE LIST \*\*\*\*"<<endl;

getch();

}

else

{

retval1=0;

cout<<endl<<" "<<"ENTER THE ID OF THE MEMBER WHOSE DETAILS ARE REQUIRED:: ";

cin>>userid;

while(index!=NULL)

{

if(index->ID==userid)

{

x=1;

cout<<endl<<" "<<"\*\*\*\* MEMBER DETAILS \*\*\*\*"<<endl;

cout<<endl<<" "<<"NAME:: "<<index->name<<" "<<index->name2<<endl;

cout<<" "<<"MEMBER ID:: "<<index->ID<<endl;

cout<<" "<<"DATE OF JOINING:: "<<index->joindate.dd<<"/"<<index->joindate.mm<<"/"<<index->joindate.yy<<"\t"<<endl;

cout<<" "<<"ADDRESS:: "<<index->address<<endl;

cout<<" "<<"PHONE NUMBER:: "<<index->ph<<endl;

getch();

}

index=index->next;

}

if(x==0)

{

cout<<endl<<" "<<"\*\*\*\* THERE IS NO MEMBER WITH THIS ID \*\*\*\*"<<endl;

getch();

}

}

return retval1;

}

void billdata(int n)

{

std::ofstream text;

text.open("Bill.txt",std::ofstream::out | std::ofstream::app);

member \*index=head;

while(index!=NULL)

{

if(index->ID==n)

{

text<<"Name : "<<index->name<<" "<<index->name2<<endl;

text<<"Member ID : "<<index->ID<<endl;

text<<"Phone Number : "<<index->ph<<endl;

text<<"No. Of Years : "<<index->no\_years\_member<<endl;

}

index=index->next;

}

}

};

int main()

{

std::ofstream text;

text.open("Bill.txt",std::ofstream::out | std::ofstream::app);

cout<<endl<<" ====== DSA SHOPPING MALL ====="<<endl;

cout<<endl<<" \*\*\* GOOD MORNING \*\*\*"<<endl;

cout<<endl<<" "<<"ENTER TODAYS DATE:"<<endl;

cout<<endl<<" "<<"DAY: ";

cin>>pdate;

cout<<" "<<"MONTH: ";

cin>>pmonth;

cout<<" "<<"YEAR: ";

cin>>pyear;

cout<<endl;

cout<<" THANK YOU"<<endl;

cout<<endl<<" \*\*\*\*\*\*\*\*\* HAVE A GREAT DAY \*\*\*\*\*\*\*\*\* ";

getch();

system("CLS");

int code;

member\_list a;

product\_list p;

int choice,choice1,choice2;

text<<" DSA SHOPPING MALL"<<endl<<endl;

text<<"DATE: "<<pdate<<"/"<<pmonth<<"/"<<pyear<<endl<<endl;

text<<"YOUR SHOPPING CART"<<endl;

text<<endl;

text<<"PRODUCT NAME"<<"\t\t\t"<<"PRICE/QTY"<<"\t"<<"QUANTITY"<<"\t"<<"TOTAL"<<endl;

while(true)

{

system("CLS");

int temp=1,temp1=1;

cout<<" ====== DSA SHOPPING MALL ====="<<endl;

cout<<endl;

cout<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

cout<<" "<<"MAIN MENU"<<endl;

cout<<endl<<"\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*"<<endl;

cout<<endl;

cout<<" "<<"ENTER YOUR CHOICE:"<<endl;

cout<<endl<<" "<<"1.> MEMBER SECTION"<<endl;

cout<<" "<<"2.> PRODUCT SECTION"<<endl;

cout<<" "<<"3.> EXIT"<<endl;

cout<<endl<<" "<<"ENTER YOUR CHOICE: ";

cin>>choice;

switch(choice)

{

case 1:

{

while(temp)

{

system("CLS");

cout<<endl<<" ====== MEMBER SECTION ====="<<endl;

cout<<endl<<" "<<"ENTER YOUR CHOICE:"<<endl;

cout<<endl<<" "<<"1.> NEW MEMBERSHIP"<<endl;

cout<<" "<<"2.> VIEWING EXISTING MEMBERSHIP"<<endl;

cout<<" "<<"3.> MODIFY MEMBER DETAILS"<<endl;

cout<<" "<<"4.> DELETE MEMBERSHIP"<<endl;

cout<<" "<<"5.> EXIT"<<endl;

cout<<endl;

cout<<" "<<"ENTER YOUR CHOICE: ";

cin>>choice1;

switch(choice1)

{

case(1):

{

a.add\_member();

break;

}

case(2):

{

a.display();

break;

}

case (3):

{

a.modify\_memdetails();

break;

}

case (4):

{

a.delete\_member();

break;

}

case(5):

{system("CLS");

temp=0;

break;

}

default :

{

cout<<" Invalid input"<<endl;

getch();

}

}

}

break;

}

case 2:

{

float billprice=0;

while(temp1)

{

system("CLS");

cout<<endl<<" ====== PRODUCT SECTION ====="<<endl;

cout<<endl<<" "<<"ENTER YOUR CHOICE:"<<endl;

cout<<endl;

cout<<" "<<"1.> BUYING PRODUCTS"<<endl;

cout<<" "<<"2.> VIEW THE BILL"<<endl;

cout<<" "<<"3.> MODIFY THE PRODUCTS BOUGHT"<<endl;

cout<<" "<<"4.> DELETE PRODUCTS BOUGHT"<<endl;

cout<<" "<<"5.> EXIT"<<endl;

cout<<endl<<" "<<"ENTER YOUR CHOICE: ";

cin>>choice2;

switch(choice2)

{

case 1:

{

cout<<endl<<" "<<"PRESS 0 to STOP BUYING PRODUCTS"<<endl;

cout<<endl;

while(true)

{

cout<<endl<<" "<<"ENTER THE PRODUCT CODE: ";

cin>>code;

if(code==0)

break;

else

p.buy\_product(code);

}

break;

}

case 2:

{

system("CLS");

cout<<endl<<" ======YOUR SHOPPING CART ====="<<endl;

int m,idno,dis,retval;

retval=p.display();

p.billdetails();

text<<endl<<endl;

text<<"The Total Bill Amount Of Your Shopping Cart is "<<p.cal\_bill()<<endl;

if(retval==0)

{

cout<<endl<<" "<<"DO YOU HAVE A MEMBERSHIP ??"<<endl;

cout<<" "<<"1.> YES 2.> NO"<<endl;

cout<<endl<<" "<<"ENTER YOUR CHOICE: ";

cin>>m;

if(m==1)

{

text<<endl<<"You Have Membership"<<endl<<endl;

cout<<endl<<" "<<"ENTER YOUR MEMBERSHIP ID: ";

cin>>idno;

dis=a.search\_memdetails(idno);

a.billdata(idno);

if(dis!=0)

{

cout<<endl<<" "<<"\*\*\*\* CONGRATULATIONS! \*\*\*\*"<<endl;

cout<<" "<<"Your discount percentage is "<<dis<<endl;

getch();

text<<endl;

text<<"Your Discount Percentage is "<<dis<<endl;

}

if(dis==0)

{

cout<<" "<<"\*\*\* SORRY! \*\*\*"<<endl;

cout<<" "<<"You don't have an year's membership yet."<<endl;

getch();

}

billprice=p.cal\_bill();

billprice=billprice-billprice\*dis/100;

cout<<endl;

cout<<endl<<" "<<"THE TOTAL BILL AMOUNT IS: ";

cout<<p.cal\_bill()<<endl;

text<<endl<<"The Total Bill Amount After Discount is : "<<billprice<<endl<<endl;

cout<<endl;

cout<<endl<<" "<<"THE TOTAL BILL AMOUNT AFTER DISCOUNT IS: ";

cout<<billprice<<endl;

cout<<endl<<" "<<"\*\*\*\* THANK YOU FOR SHOPPING WITH US \*\*\*\*";

cout<<endl;

getch();

}

else if(m==2)

{

cout<<endl<<" "<<"You don't have any discount"<<endl;

cout<<endl;

cout<<endl<<" "<<"THE TOTAL BILL AMOUNT AFTER DISCOUNT IS: ";

cout<<p.cal\_bill()<<endl;

cout<<endl<<" "<<"\*\*\*\* THANK YOU FOR SHOPPING WITH US \*\*\*\*";

cout<<endl;

getch();

}

}

break;

}

case 3:

{

p.modify\_item();

break;

}

case 4:

{

p.delete\_item();

break;

}

case 5:

{

temp1=0;

break;

}

default :

{

cout<<" Invalid input"<<endl;

getch();

}

}

}

break;

}

case 3:

{

exit(0);

}

default:

{

cout<<" Invalid input"<<endl;

getch();

}

}

}

text.close();

}