INTRODUCTion

Pharmacists are fundamental players in meeting the needs of the society in which they practice both at an individual patient or consumer level, as well as in a broader sense at the population level. Medication is becoming more complex with the introduction of innovative drugs.

This computer project is about a program that deals with the role of a pharmacist in a pharmacy. It includes the option of a pharmacist to add medicines, delete medicines and to modify the quantity and price of the specified medicine. It also provides an option for the user to buy medicines after providing their prescription code and to generate the bill depending on whether the customer has a medical insurance or not.

FUNCTION DEFINITIONS

* void read\_dname() :this function takes the name of the medicine from the user.
* void read\_date() : this function takes the date of expiry of the medicine .
* void getdata() :this function takes the quantity and price of the medicine.
* char\* retdname():this function returns the name of the medicine.
* int retyear() :this function returns the year.
* int retmonth ():this function returns the month.
* int retdstock():this function returns the stock of the medicine.
* int retdprice() :this function returns the price of the medicine.
* void putdata() :this function displays the name,quantity,price and expiry date of the medicine.
* void assign\_2() :this function declares the stock of the medicine to 0.
* void assign\_3():this function reduces the value of stock when the medicine is bought.
* void assign\_4():this function assigns the new quantity to the stock.
* void assign\_5():this function replaces the old price with the new price .
* void get\_prescode():this function reads the prescription code from the user.
* void read\_pstock() :this function reads the prescribed quantity of the medicine from the user.
* void read\_pname() :this function reads the name of the prescribed medicine from the user.
* char\* retpname():this function returns the name of the prescribed medicine.
* int retpstock():this function returns the stock of the prescribed medicine.
* void assign\_():this function assigns the value of
* int retpcode():this function returns the prescription code.
* void putdata():this function displays the prescription code ,the name of the prescribed medicine and the quantity of the medicine.
* void check\_expiry():this function checks the expiry date.
* int check\_medname():this function verifies the name of the medicine prescribed.
* void writing():this function checks if the name of the medicine already exist in the file and also checks the month.
* void display():this function returns the price,name,stock and expiry date of the prescribed medicine.
* int check\_dstock():this function checks the stock.
* void get-pres():this function checks if the prescribed medicine is available.
* int check\_prescode():this function varifies the prescription code of the medicine prescribed.
* void display\_pres():this function verifies the prescription code and then displays it.
* float check\_medprice():this function checks if the name of the medicine is same as the prescribed one.
* void change\_dstock():
* void modify\_quantity():this function modifies the quantity of the specified medicine.
* void modify\_price():this function modifies the price of the specified medicine.
* void modify\_menu():this function provides the menu for the options to be modified.
* void delete\_medicine():this function deletes the specified medicine.
* void billing():this function generates the bill according to the access of medical insurance for the user.
* void admin\_menu():this function provides the menu for the administrator.
* pharmacy.dat: this file contains all the details of all the medicines in the pharmacy
* prescription.dat(): this file contains the bill details

PROGRAM CODE

# include<iostream.h>

# include<conio.h>

# include<stdio.h >

# include<string.h>

# include<fstream.h>

# include<iomanip.h>

# include<stdlib.h>

int day, month ,year;

class pharmacy

{char dname[25]; int year,month,dstock; float dprice;

public: void read\_dname()

{

cout<<"\n\n\t\t\tEnter the name of the medicine ";

gets(dname);}

void read\_date()

{

cout<<"\n\n\t\t\tEnter the date of expiry (mm yy) ";

cin>>month>>year;}

void getdata()

{

cout<<"\n\n\t\t\tEnter the quantity of medicine ";

cin>>dstock;

cout<<"\n\n\t\t\tEnter the price of the medicine ";

cin>>dprice; }

char\*retdname()

{return dname;}

int retyear()

{return year;}

int retmonth()

{return month;

}

int retdstock ()

{return dstock;

int retdprice()

{return dprice;

}

void putdata()

{gotoxy(5,5);

cout<<"NAME";

gotoxy(20,5);

cout<<"QUANTITY";

gotoxy(40,5);

cout<<"PRICE";

gotoxy(60,5);

cout<<"DATE OF EXPIRY";}

void assign\_2()

{dstock=0;}

void assign\_3(int quantity)

{dstock-=quantity ;}

void assign\_4(int qty)

{dstock=qty;

}

void assign\_5(float price)

{dprice=price;}

};

class prescription

{char pname[25]; int pstock,pcode;

public:

void get\_prescode ()

{

cout<<"\n\n\t\t\tEnter the prescription code ";

cin>>pcode; }

void read\_pname()

{cout<<"\n\n\t\tEnter the name of the medicine you wish to purchase ";

cin>>pname;

}

void read\_pstock()

{cout<<"\n\n\t\t\tEnter the quantity of the medicine ";

cin>>pstock;

}

char\* retpname()

{return pname;

}

int retpstock()

{return pstock;}

void assign\_1(int qty)

{pstock=qty;}

int retpcode()

{return pcode;}

void putdata()

{gotoxy(5,5);

cout<<"PRESCRIPTION CODE";

gotoxy( 30,5);

cout<<"MEDICINE PRESCRIBED";

gotoxy(60,5);

cout<<"QUANTITY";

}

};

void check\_expiry(int cmonth,int cyear)

{pharmacy p;

ifstream fin("pharmacy.dat",ios::binary);

ofstream fout("temp.dat",ios::binary);

while(fin.read((char\*)&p,sizeof(p)))

{if (p.retyear()<cyear)

;

else if((p.retyear()==cyear)&&(p.retmonth()<cmonth))

;

else

fout.write((char\*)&p,sizeof(p));}

fin.close();

fout.close();

remove("pharmacy.dat");

rename("temp.dat","pharmacy.dat");

}

int check\_medname(char mname[])

{pharmacy p; int x=0;

ifstream fin("pharmacy.dat",ios::binary);

while(fin.read((char\*)&p,sizeof(p)))

{if(strcmpi(p.retdname(),mname)==0)

{x=1;

break;

}}

return x;}

void writing()

{pharmacy p; int x; char ans;

clrscr();

do

{do

{ p.read\_dname();

x=check\_medname(p.retdname());

if(x==1)

cout<<"\n\n\t\t\t Medicine already exists in the file"<<"\n\n\t\t\t Please try again"<<"\n" ;

}while (x==1);

p.getdata();

do{

p.read\_date();

if(p.retmonth()>=13)

cout<<"\n\n\t\t\tInvalid date!"<<"\n\n\t\t\tPlease try again"<<"\n";

}while(p.retmonth()>=13);

fstream file("pharmacy.dat",ios::binary|ios::app);

file.write((char\*)&p,sizeof(p));

file.close();

do{

cout<<"\n\n\t\t\tDo you wish to enter any more records?(y/n) ";

cin>>ans;

if (ans!='Y'&&ans!='y'&&ans!='n' && ans!='N')

cout<<"\n\t\t\tInvalid answer!"<<"\n";

}while( ans!='Y'&&ans!='y'&&ans!='n' && ans!='N') ;

}while(ans=='y'||ans=='Y');

getch();}

void display()

{pharmacy p; int i=6;

clrscr();

ifstream fin("pharmacy.dat",ios::binary);

p.putdata();

while (fin.read((char\*)&p,sizeof(p)))

{gotoxy(5,i);

cout<<p.retdname();

gotoxy(23,i);

cout<<p.retdstock();

gotoxy(40,i);

cout<<p.retdprice();

gotoxy(63,i);

cout<<p.retmonth()<<"/"<<p.retyear()<<"\n";

i++;

}

fin.close();

getch();}

int check\_dstock(char mname[])

{pharmacy p; int f=0;

ifstream fin("pharmacy.dat",ios::binary);

while(fin.read((char\*)&p,sizeof(p)))

if (strcmpi(mname,p.retdname())==0)

{f=1;

break;

}

if(f==1)

return p.retdstock();

else return 0;}

void get\_pres()

{prescription pr;

char ans,ch; int y, x,f,z,stock;

clrscr();

ofstream fout("prescription.dat",ios::binary|ios::app);

pr.get\_prescode();

do{

y=1;

do{

pr.read\_pname();

x=check\_medname(pr.retpname());

if(x==0)

cout<<"\n\n\t\t\tThe medicine does not exist in the file"<<"\n\n\t\t\tPlease try again"<<"\n";

}while(x==0);

pr.read\_pstock();

stock = check\_dstock(pr.retpname());

if(stock==0)

{cout<<"\n\n\t\t\t"<<pr.retpname()<<" is out of stock";

y=0;}

else if (pr.retpstock()>stock)

{do

{f=0;

cout<<"\n\n\t\t\tRequired quantity of "<<pr.retpname()<<" not available"<<"\n\n\t\t\tWould you like to purchase "<<stock<<" pieces (y/n) ";

cin>>ans;

if(ans!='y'&& ans!='Y' && ans!='n' &&ans!='N')

{f=1;

cout<<"\n\n\t\t\tINVALID CHOICE!";

}

}while(f==1);

if (ans=='y'||ans=='y')

pr.assign\_1(stock);

else y=0;

}

if (y==1)

fout.write((char\*)&pr,sizeof(pr));

do{

z=0;

cout<<"\n\n\t\t\tDo you wish to enter anymore records?(y/n) ";

cin>>ch;

if( ch!='y'&& ch!='Y' && ch!='n' && ch!='N' )

{z=1;

cout<<"\n\n\t\t\tINVALID CHOICE";

}

}while(z==1);

}while(ch=='y'||ch=='Y');

fout.close();

getch();}

int check\_prescode(int code)

{

prescription pr; int x=0;

ifstream fin("prescription.dat",ios::binary);

while(fin.read((char\*)&pr,sizeof(pr)))

if(pr.retpcode()==code)

{x=1;

break;

}

if(x==1)

return 0;

}

void display\_pres(int code)

{prescription pr; int i=6 ;

clrscr();

pr.putdata();

ifstream fin("prescription.dat",ios::binary);

while(fin.read((char\*)&pr,sizeof(pr)))

{if(pr.retpcode()==code)

gotoxy( 8,i);

cout<<pr.retpcode();

gotoxy( 33,i);

cout<<pr.retpname();

gotoxy( 63,i);

cout<<pr.retpstock();

i++;

}

fin.close();

getch();}

float check\_medprice(char mname[25])

{pharmacy p; int f=0;

ifstream fin ("pharmacy.dat",ios::binary);

while(fin.read((char\*)&p ,sizeof(p)))

if (strcmpi(mname,p.retdname())==0)

{f=1;

break;

}

fin.close();

if(f==1)

return p.retdprice();

else

return 0;

}

void change\_dstock(int qty,char mname[50])

{pharmacy p;

fstream file("pharmacy.dat",ios::binary|ios::in|ios::out);

while(file.read((char\*)&p,sizeof(p)))

{

if(strcmpi(mname,p.retdname())==0)

{if(qty>=p.retdstock())

{p.assign\_2();

file.seekg(-sizeof(p),ios::cur);

file.write((char\*)&p,sizeof(p));

}

else

{p.assign\_3(qty);

file.seekg(-sizeof(p),ios::cur);

file.write((char\*)&p,sizeof(p));

}

}

}

file.close();

}

void modify\_quantity()

{pharmacy p; int found=0,qty; char name[25];

clrscr();

cout<<"\n\n\t\t\tEnter the name of the medicine to modify ";

gets(name);

fstream file("pharmacy.dat",ios::binary|ios::in|ios::out);

while(file.read((char\*)&p,sizeof(p)))

if(strcmpi(p.retdname(),name)==0)

{

cout<<"\n\n\t\t\tEnter new quantity of "<<p.retdname()<<" ";

cin>>qty;

p.assign\_4(qty);

file.seekg(-sizeof(p),ios::cur);

file.write((char\*)&p,sizeof(p));

found++;

}

file.close();

if(found==0)

cout<<"\n\n\t\t\tInvalid medicine name"<<"\n\n\t\t\tPlease try again";

else

cout<<"\n\t\t\t"<<found<<" record modified";

getch();}

void modify\_price()

{pharmacy p; int found=0; float price; char name[25];

clrscr();

cout<<"\n\n\t\t\tEnter the name of the medicine to modify ";

gets(name);

fstream file("pharmacy.dat",ios::binary|ios::in|ios::out);

while(file.read((char\*)&p,sizeof(p)))

if(strcmpi(p.retdname(),name)==0)

{cout<<"\n\t\t\tEnter the new price of "<<p.retdname()<<" " ;

cin>>price;

p.assign\_5(price);

file.seekg(-sizeof(p),ios::cur);

file.write((char\*)&p,sizeof(p));

found++;

}

file.close();

if(found==0)

cout<<"\n\n\t\t\tINVALID MEDICINE NAME "<<"\n\n\t\t\tPlease try again";

else

cout<<"\n\n\t\t\t"<<found<<" record modified";

getch();}

void modify\_menu()

{char ch;

clrscr();

cout<<"\n\n\t\t\tTo modify quantity, Press Q"<<"\n\n\t\t\tTo modify price, Press P"<<"\n\n\t\t\tEnter your choice";

cin>>ch;

switch(ch)

{case 'Q':

case 'q':modify\_quantity();

break;

case'P':

case'p':modify\_price();

break;

default: cout<<"\n\n\t\t\tInvalid choice!";

break;

}

getch();}

void delete\_medicine()

{pharmacy p; char name[25]; int found=0;

clrscr();

ifstream fin("pharmacy.dat",ios::binary);

ofstream fout("temp.dat",ios::binary);

cout<<"\n\n\t\t\tEnter the name of the medicine to delete ";

gets(name);

while(fin.read((char\*)&p,sizeof(p)))

{if(strcmpi(p.retdname(),name)==0)

found++;

else

fout.write((char\*)&p,sizeof(p));

}

fin.close();

fout.close();

if(found==0)

cout<<"\n\n\t\t\t No records deleted";

else

cout<<"\n\n\t\t\t"<<found<<" record deleted";

remove("pharmacy.dat");

rename("temp.dat","pharmacy.dat");

getch();}

void billing (int code)

{

prescription pr; char ans ; int x,w=0,i=6,qty; float price,total=0;

clrscr();

cout<<"\n\n\t\t\tDo you have medical insurance?(y/n) ";

cin>>ans;

if(ans=='Y'||ans=='y')

cout<<"\n\n\t\t\tThe medical insurance covers 25% of your bill ";

getch();

ifstream fin("prescription.dat",ios::binary);

clrscr();

cout<<"\n\t\t\t\tJFR PHARMACY";

cout<<"\nPRESCRIPTION CODE: "<<code;

while(fin.read((char\*)&pr,sizeof(pr)))

{if(pr.retpcode()==code)

{x=1;

price= check\_medprice(pr.retpname());

qty=check\_dstock(pr.retpname());

if(w==0)

{

gotoxy(5,5) ;

cout<<"MEDICINE PRESCRIBED";

gotoxy(30,5);

cout<<"QUANTITY" ;

gotoxy(45,5);

cout<<"UNIT PRICE";

gotoxy(60,5);

cout<<"TOTAL";

w=1;

}

gotoxy (8,i);

cout<<pr.retpname();

if(qty!=0)

{

gotoxy(33,i);

cout<<pr.retpstock();

gotoxy(48,i);

cout<<price ;

gotoxy(63,i);

cout<<pr.retpstock()\*price;

i++;

total= total +pr.retpstock()\*price;

change\_dstock(pr.retpstock(),pr.retpname());

}

else

{ gotoxy(33,i);

cout<<"0";

gotoxy(48,i);

cout<<price ;

gotoxy(63,i);

cout<<0;

total= total+0;

change\_dstock(0,pr.retpname());}

}

}

if(x==1)

{

if(ans=='Y'||ans=='y')

total =total-(25.0/100\*total);

cout<<"\n\n\t\t\t\t\tTOTAL: "<<total<<"\n\n\n\n";

}

fin.close();

getch();}

void admin\_menu()

{ int ch;

clrscr();

do{ cout<<"\n\n\n";

cout<<"\n\n\t\t\t1. Add medicines ";

cout<<"\n\n\t\t\t2. Display records ";

cout<<"\n\n\t\t\t3. Modify records ";

cout<<"\n\n\t\t\t4. Delete medicines ";

cout<<"\n\n\t\t\t5. Return to the previous menu ";

cout<<"\n\n\t\t\t Enter your choice ";

cin>>ch;

switch(ch)

{case 1: writing();

check\_expiry(month,year);

break;

case 2: display();

break;

case 3: modify\_menu();

break;

case 4: delete\_medicine();

break;

case 5: break;

default: cout<<"\n\n\t\t\tINVALID CHOICE!"<<"\n\n\t\t\tPlease try again";

break;

}

}while(ch!=5);

getch();}

void main()

{

char choice; int ch;

int x,y,code;

clrscr();

do

{

cout<<"\n\n\t\t\tEnter today's date(dd mm yy) ";

cin>>day>>month>>year;

switch(month)

{case 1:

case 3:

case 5:

case 7:

case 10:

case 12:if(day>31)

{x=1;

cout<<"\n\n\t\t\tINVALID DATE!";

}

break;

case 2:if(day>28)

{x=1;

cout<<"\n\n\t\t\tINVALID DATE!";

}

break;

case 4:

case 6:

case 9:

case 11:if(day>30)

{x=1;

cout<<"\n\n\t\t\tINVALID DATE!";

}

break;

default: if(month>12)

{x=1;

cout<<"\n\n\t\t\tINVALID DATE!";

}

getch();}

check\_expiry(month,year);

}while(x==1);

do{

clrscr();

cout<<"\n\n\t\t\tFor Admin Menu, press A " <<"\n\n\t\t\tFor User Menu, press U "

<<"\n\n\t\t\tTo Exit, press E"<<"\n\n\t\t\tEnter your choice ";

cin>>choice;

switch(choice)

{case 'U':

case 'u': do{ cout<<"\n\n\n";

cout<<"\n\n\t\t\t1.Buy Medicines ";

cout<<"\n\n\t\t\t2.Display Prescription";

cout<<"\n\n\t\t\t3.Generate Bill";

cout<<"\n\n\t\t\t4.Return to main menu";

cout<<"\n\n\t\t\t Enter your choice: ";

cin>>ch;

switch(ch)

{case 1: clrscr();get\_pres();getch();

break;

case 2:

clrscr();

do{

cout<<"\n\n\t\t\tEnter the prescription code ";

cin>>code;

y=check\_prescode(code);

if(y==0)

display\_pres(code);

else

{ cout<<"\n\n\t\t\tInvalid Prescription code";

cout<<"\n\n\t\t\tPlease try again";}

}while(y!=0);

getch();

break;

case 3:clrscr();

do{

cout<<"\n\n\t\t\tEnter the Prescription code ";

cin>>code;

y= check\_prescode(code);

if(y==0)

billing (code);

else

cout<<"\n\n\t\t\tINVALID PRESCRIPTION CODE"<<"\n\n\t\t\tPlease try again";

}while(y!=0);

getch();

break;

case 4: break;

default : cout<<"\n\n\t\t\tINVALID CHOICE!";

cout<<"\n\n\t\t\tPlease try again";

}

}while(ch!=4);

break;

case 'A' :

case 'a' : clrscr();admin\_menu(); getch();

break;

case 'E':

case 'e': exit(0);

default: cout<<"\n\n\t\t\t INVALID CHOICE";

}

}while(choice!='X' && choice!='x');

getch();

}

INPUT /OUTPUT

Enter today's date(dd mm yy) 11 11 16

For Admin Menu, press A

For User Menu, press U

To Exit, press E

Enter your choice A

1. Add medicines

2. Display records

3. Modify records

4. Delete medicines

5. Return to the previous menu

Enter your choice 1

Enter the name of the medicine Adol

Enter the quantity of medicine 500

Enter the price of the medicine 1

Enter the date of expiry (mm yy) 12 16

Do you wish to enter any more records?(y/n) y

Enter the name of the medicine Panadol

Enter the quantity of medicine 400

Enter the price of the medicine 2

Enter the date of expiry (mm yy) 12 16

Do you wish to enter any more records?(y/n) y

Enter the name of the medicine Dettol

Enter the quantity of medicine 300

Enter the price of the medicine 3

Enter the date of expiry (mm yy) 01 17

Do you wish to enter any more records?(y/n) n

1. Add medicines

2. Display records

3. Modify records

4 .Delete medicines

5. Return to the previous menu

Enter your choice 2

NAME QUANTITY PRICE DATE OF EXPIRY

Adol 500 1 12/16

Panadol 400 2 12/16

Dettol 300 3 1/17

1. Add medicines

2. Display records

3. Modify records

4. Delete medicines

5. Return to the previous menu

Enter your choice 3

To modify quantity, Press Q

To modify price, Press P

Enter your choiceQ

Enter the name of the medicine to modify Adol

Enter new quantity of Adol 200

1 record modified

1. Add medicines

2. Display records

3. Modify records

4. Delete medicines

5. Return to the previous menu

Enter your choice 3

To modify quantity, Press Q

To modify price, Press P

Enter your choiceP

Enter the name of the medicine to modify Dettol

Enter the new price of Dettol 4

1 record modified

1. Add medicines

2. Display records

3. Modify records

4. Delete medicines

5. Return to the previous menu

Enter your choice 2

NAME QUANTITY PRICE DATE OF EXPIRY

Adol 200 1 12/16

Panadol 400 2 12/16

Dettol 300 4 1/17

1. Add medicines

2. Display records

3. Modify records

4. Delete medicines

5. Return to the previous menu

Enter your choice 4

Enter the name of the medicine to delete Dettol

1 record deleted

1. Add medicines

2. Display records

3. Modify records

4. Delete medicines

5. Return to the previous menu

Enter your choice 2

NAME QUANTITY PRICE DATE OF EXPIRY

Adol 200 1 12/16

Panadol 400 2 12/16

1. Add medicines

2. Display records

3. Modify records

4. Delete medicines

5. Return to the previous menu

Enter your choice 5

For Admin Menu, press A

For User Menu, press U

To Exit, press E

Enter your choice U

1.Buy Medicine

2.Display Prescription

3.Generate Bill

4.Return to main menu

Enter your choice: 1

Enter the prescription code 340

Enter the name of the medicine you wish to purchase Adol

Enter the quantity of the medicine 50

Do you wish to enter anymore records?(y/n) n

1.Buy Medicines

2.Display Prescription

3.Generate Bill

4.Return to main menu

Enter your choice: 2

Enter the prescription code 340

PRESCRIPTION CODE MEDICINE PRESCRIBED QUANTITY

340 Adol 50

1.Buy Medicines

2.Display Prescription

3.Generate Bill

4.Return to main menu

Enter your choice: 3

Enter the Prescription code 340

Do you have medical insurance?(y/n) y

The medical insurance covers 25% of your bill

JFR PHARMACY

PRESCRIPTION CODE: 340

MEDICINE PRESCRIBED QUANTITY UNIT PRICE TOTAL

Adol 50 1 50

TOTAL: 37.5

1.Buy Medicines

2.Display Prescription

3.Generate Bill

4.Return to main menu

Enter your choice: 3

Enter the Prescription code 340

Do you have medical insurance?(y/n) n

JFR PHARMACY

PRESCRIPTION CODE: 340

MEDICINE PRESCRIBED QUANTITY UNIT PRICE TOTAL

Adol 50 1 50

TOTAL: 50

1.Buy Medicines

2.Display Prescription

3.Generate Bill

4.Return to main menu

Enter your choice: 4

For Admin Menu, press A

For User Menu, press U

To Exit, press E

Enter your choice A

1. Add medicines

2. Display records

3. Modify records

4. Delete medicines

5. Return to the previous menu

Enter your choice 2

NAME QUANTITY PRICE DATE OF EXPIRY

Adol 150 1 12/16

Panadol 400 2 12/16

1. Add medicines

2. Display records

3. Modify records

4. Delete medicines

5. Return to the previous menu

Enter your choice 5

For Admin Menu, press A

For User Menu, press U

To Exit, press E

Enter your choice E