```
#include <string>
#include<windows.h>
#include <stdio.h>
#include <iostream>
#include <typeinfo>
#include<fstream>
using namespace std;

class prod
{
   private:
      float price;
      char name[20];
      char store[20];
      int codedname[100];
      int codedstore[100];
      int ln,ls;
      int quantity;

   public:
      void getdata(float f, char n[20],char s[20], int q)
      {
         price = f;
         strcpy(name,n);
         strcpy(store,s);
         quantity = q;
      }
      void display_data()
      {
         cout << "Item : " << name << endl;
         cout << "Store : " << store << endl;
         cout << "Price : " << price << endl;
         cout << "Quantity left " << quantity << endl;
         int i;
      }
      char *getname()
      {
          return &name[0];
      }
     void encoder()
     {
        int i;
        for(i=0 ; store[i]!='\0' ; i++)
        {
           codedstore[i]=int(store[i]);
        }
        ls=i;
         for(i=0 ; name[i]!='\0' ; i++)
```

```
        {
           codedname[i]=int(name[i]);
        }
        ln=i;
     }
     void deleter()
     {
        name[0]='e';
        store[0]='e';
     }
    void  decoder()
    {
       int i;
       for(i=0 ; i<ls ; i++)
        {
           store[i]=(char)codedstore[i];
        }
        for(i=0 ; i<ln ; i++)
        {
           name[i]=(char)codedname[i];
        }
    }
};

void graphic()
{
   cout<<"=========================================================="<<endl;
}

void push(int i)
{
   prod p;
   float price;
   char name[20];
   char store[20];
   int quantity;
   cout << "Item : ";
   cin>>name;
   cout << "Store : ";
   cin>>store;
   cout << "Price : ";
   cin >> price;
   cout << "Quantity ";
   cin >> quantity;
   p.getdata(price,name,store,quantity);
   p.encoder();
   if(i==1)
   {
```

```
        ofstream out;
        out.open("store1.dat",ios::app|ios::binary);
        out.write((char*)&p,sizeof(p));
        out.close();
    }
    else if(i==2)
    {
        ofstream out;
        out.open("store2.dat",ios::app|ios::binary);
        out.write((char*)&p,sizeof(p));
        out.close();
    }
    else if(i==3)
    {
        ofstream out;
        out.open("store3.dat",ios::app|ios::binary);
        out.write((char*)&p,sizeof(p));
        out.close();
    }
    else if(i==4)
    {
        ofstream out;
        out.open("store4.dat",ios::app|ios::binary);
        out.write((char*)&p,sizeof(p));
        out.close();
    }

}
void pop(int i)
{
    string del;
    int flag = 0, j;
    cout << "Enter the product to be deleted ";
    cin>>del;
    ifstream fd;
    ofstream ft;

    if(i==1)
    {
        fd.open("store1.dat",ios::binary|ios::in);
        ft.open("temp.dat",ios::binary|ios::out);
        int flag=0;
        prod p;

        while(!fd.eof())
        {
        fd.read((char*)&p,sizeof(p));
        if(!del.compare(p.getname()))
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```
    {
       flag=1;
    }
      else
       ft.write((char*)&p,sizeof(p));
    }
    if(flag==0)
    cout<<"specified product not found \n";  fd.close(); ft.close();
    remove("store1.dat");
    rename("temp.dat","store1.dat");
    cout<<"product deleted successfully\n";
}
else if(i==2)
{
    fd.open("store2.dat",ios::binary|ios::in);
    ft.open("temp.dat",ios::binary|ios::out);
    int flag=0;
    prod p;

    while(!fd.eof())
    {
    fd.read((char*)&p,sizeof(p));
    if(!del.compare(p.getname()))
    {
       flag=1;
    }
      else
       ft.write((char*)&p,sizeof(p));
    }
    if(flag==0)
    cout<<"specified product not found ";  fd.close(); ft.close();
    remove("store2.dat");
    rename("temp.dat","store2.dat");
    cout<<"product deleted successfully";

}
else if(i==3)
{
    fd.open("store3.dat",ios::binary|ios::in);
    ft.open("temp.dat",ios::binary|ios::out);
    int flag=0;
    prod p;

    while(!fd.eof())
    {
    fd.read((char*)&p,sizeof(p));
    if(!del.compare(p.getname()))
    {
```

```
            flag=1;
        }
          else
            ft.write((char*)&p,sizeof(p));
        }
        if(flag==0)
        cout<<"specified product not found ";  fd.close(); ft.close();
        remove("store3.dat");
        rename("temp.dat","store3.dat");
        cout<<"product deleted successfully";

    }
    else if(i==4)
    {
        fd.open("store4.dat",ios::binary|ios::in);
        ft.open("temp.dat",ios::binary|ios::out);
        int flag=0;
        prod p;

        while(!fd.eof())
        {
        fd.read((char*)&p,sizeof(p));
        if(!del.compare(p.getname()))
        {
            flag=1;
        }
          else
            ft.write((char*)&p,sizeof(p));
        }
        if(flag==0)
        cout<<"specified product not found ";  fd.close(); ft.close();
        remove("store4.dat");
        rename("temp.dat","store4.dat");
        cout<<"product deleted successfully";
    }

}
void display(int i)
{
    prod p;
    cout<<endl;
    if(i==1)
    {
        ifstream in("store1.dat", ios::binary);
        while(in.eof()==0)
        {
            in.read((char*)&p, sizeof(p));
```

```
            p.decoder();
                                    p.display_data();
            graphic();


      }
      in.close();
   }
   else if(i==2)
   {
      ifstream in("store2.dat", ios::binary);
      while(!in.eof())
      {
         in.read((char*)&p, sizeof(p));

            p.decoder();
                                    p.display_data();
            graphic();


      }
      in.close();
   }
   else if(i==3)
   {
      ifstream in("store3.dat", ios::binary);
      while(!in.eof())
      {
         in.read((char*)&p, sizeof(p));
            p.decoder();
                                    p.display_data();
            graphic();

      }
      in.close();
   }
   else if(i==4)
   {
      ifstream in("store4.dat", ios::binary);
      while(!in.eof())
      {
         in.read((char*)&p, sizeof(p));

            p.decoder();
                                    p.display_data();
            graphic();
```

```
        }
        in.close();
     }

}
int search_prod1(string serch)
{
   graphic();
   ifstream fin("store1.dat", ios::in|ios::binary);
   prod p;

   int f=0;

   while(!fin.eof())
   {
      fin.read((char *)&p, sizeof(p));
      p.decoder();
      if(!serch.compare(p.getname()))
      {
         p.display_data();
         graphic();
         f=1;
         break;
      }
   }
   return f;
   fin.close();
}
int search_prod2(string serch)
{
   graphic();
   ifstream fin("store2.dat", ios::in|ios::binary);
   prod p;

   int f=0;
   while(!fin.eof())
   {
      fin.read((char *)&p, sizeof(p));
      p.decoder();
      if(!serch.compare(p.getname()))
      {
         p.display_data();
         graphic();
         f=1;
         break;
      }
   }
   return f;
```

```
   fin.close();
}
int search_prod3(string serch)
{
   graphic();
   ifstream fin("store3.dat", ios::in|ios::binary);
   prod p;

   int f=0;

   while(!fin.eof())
   {
      fin.read((char *)&p, sizeof(p));
      p.decoder();
      if(!serch.compare(p.getname()))
      {
         p.display_data();
         graphic();
         f=1;
         break;
      }
   }
   return f;
   fin.close();
}
int search_prod4(string serch)
{
   graphic();
   ifstream fin("store4.dat", ios::in|ios::binary);
   prod p;

   int f=0;

   while(!fin.eof())
   {
      fin.read((char *)&p, sizeof(p));
      p.decoder();
      if(!serch.compare(p.getname()))
      {
         p.display_data();
         graphic();
         f=1;
         break;
      }
   }
   return f;
   fin.close();
}
```

```
int main()
{
	int ch,f,n,m,condition = 1;
	float price;
	string name, query,serch;
	do
	{
		graphic();
		cout << "\n     Menu\n";
		cout << "1)Back-end \n";
		cout << "2)Front-end \n";
		cout << "3)Exit\n";
		cout << "4)Enter your choice:";
		cin >> ch;
		switch (ch)
		{
		case 1:
			graphic();
			cout << "    Back-end\n";
			cout << "1) Enter new product\n";
			cout << "2) Delete a product \n";
			cout << "3) View inventory   \n ";
			cout << "Enter your choice: ";
			cin >> n;
			graphic();
			cout << " Store menu \n";
			cout << "1) store 1\n";
			cout << "2) store 2\n";
			cout << "3) store 3\n";
			cout << "4) store 4\n";
			cout << "Enter your choice: ";
			cin >> m;
			switch (n)
			{
			case 1:
				push(m);
				break;
			case 2:
				pop(m);
				break;
			case 3:
				display(m);
				break;
			}
			break;
		case 2:
			f=0;
```

```
            cout<<"Enter the product to be searched ";
            cin>>serch;

            f+=search_prod1(serch);
            f+=search_prod2(serch);
            f+=search_prod3(serch);
            f+=search_prod4(serch);


            if(f==0)
              cout<<"Product not found in any store. \nTry another product"<<endl;
            else if(f!=0)
            {
               continue;
            }

            graphic();

            break;
        case 3:
            graphic();
            cout << "Thank you";
            condition = 0;
            break;
        default:
            graphic();
            cout << "Enter valid choice"<<endl;
        }
    }
    while (condition);
    return 0;
}
```