

**OBJECT ORIENTED PROGRAMMING IN C++**

**Project Title: Billing and Stock maintenance using C++**

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**Objectives:**

1. The objective of the program is to create, sell, calculate amount and update the stock of a shopping mart.
2. This is done using a C++ program which uses File Handling concept. A file is created which maintains the available stock and performs billing operation.
3. It becomes feasible to store data, update it after every purchase and also to add as well as remove products.

**Abstract:**

A **data file** is a [computer file](http://en.wikipedia.org/wiki/Computer_file) which stores data to be used by a computer [application](http://en.wikipedia.org/wiki/Application_software) or [system](http://en.wikipedia.org/wiki/System_software). It generally does *not* refer to files that contain instructions or code to be executed (typically called program files), or to files which define the operation or structure of an application or system (which include configuration files, directory files, etc.); but specifically to information used as input, or written as output by some other software program. This is especially helpful when debugging a program.

Most computer programs work with [files](http://en.wikipedia.org/wiki/Computer_file). This is because files help in storing information permanently.  [Database](http://en.wikipedia.org/wiki/Database)  programs create files of information. [Compilers](http://en.wikipedia.org/wiki/Compiler) read source files and generate executable files. A file itself is a bunch of [bytes](http://en.wikipedia.org/wiki/Byte) stored on some storage device like [tape](http://en.wikipedia.org/wiki/Magnetic_tape_data_storage), [magnetic disk](http://en.wikipedia.org/wiki/Magnetic_disk), [Optical disk](http://en.wikipedia.org/wiki/Optical_disk) etc. The **data files** are the files that store data pertaining to a specific application, for later use.

**Module details:**

1. **Main**: Main .cpp file which encapsulates all the header files and the other .cpp files and creates a working program.
2. **Withdraw:** This function facilitates the user to purchase the products as per the availability of stock.
3. **Add new:** It provides the flexibility to the shopkeeper to add a new product.
4. **Refill:** It provides the facility to refill the stock of an existing product.
5. **Remove:** This function removes a particular item from shop’s stock.
6. **Display:** It displays all the available items in the shop, specifying its price and quantity.
7. **Check:** It checks whether the entered product is available in the shop or not.

**Concepts used:**

**Classes & Objects**: By creating the decompression function and compression function in different classes, these functions can be written, handled and debugged efficiently.

**Encapsulation**: The data members and member functions which are dependent on each other and are encapsulated into a single class and enumeration is also present.

**File Handling:** The original and compressed data files are opened in the program and necessary manipulation is done. The compressed and decompressed files are written into files and saved.

**Abstraction**: Only the essential features are shown and the other features are protected from the user so that no meddling with the algorithm occurs.

**Sample code**

**Class:**

class stock

{ char name[20];

float pr; int quant;

public:

void get();

void get2();

void show();

int stchk(char nm[30]);

void withd(int qty);

void refil(int qty);

}st;

**Main Function:**

int main()

{

int i;

mainmenu:

system("cls");

cout<<"\n\n\t\t\t\tMAIN MENU\n1.Add new product\n2.Purchase\n3.Display stock\n4.Refill\n5Remove an item\n6.Exit:\n";

cin>>i;

if(i==1)

{

addnew();getch();

goto mainmenu;

}

else if (i==2)

{

withdraw();getch();goto mainmenu;

}

else if(i==3)

{

system("cls");

disp();getch();goto mainmenu;

}

else if(i==4)

{

refill();goto mainmenu;

}

else if(i==5)

{

remove();getch();goto mainmenu;

}

else

exit(0);

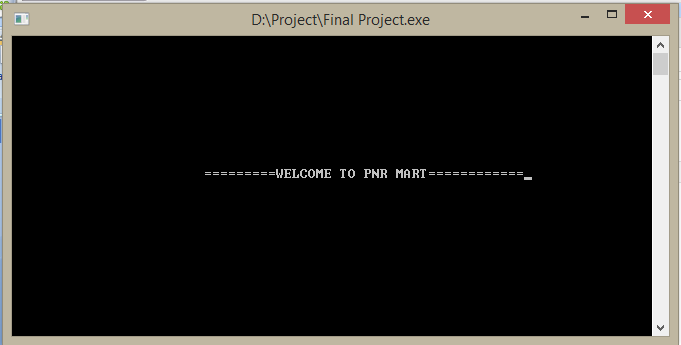
getch();

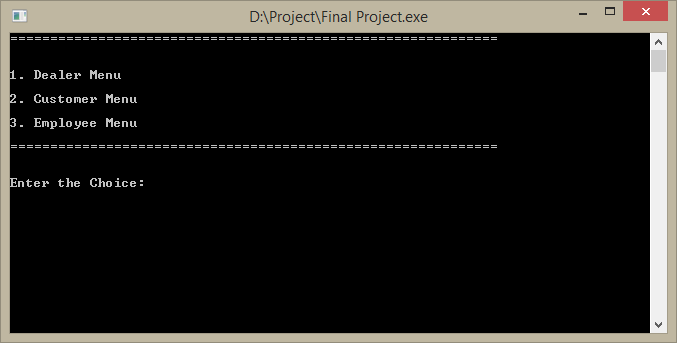
}

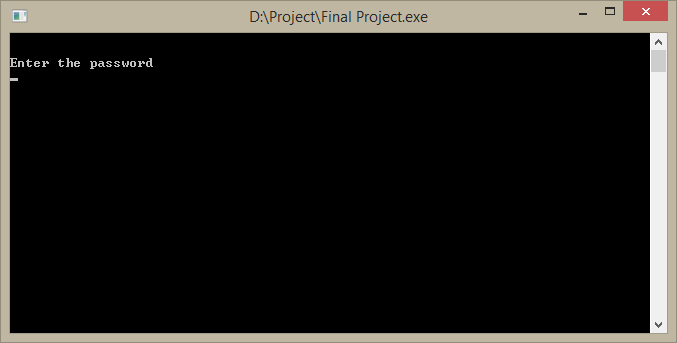
**Result analysis:**

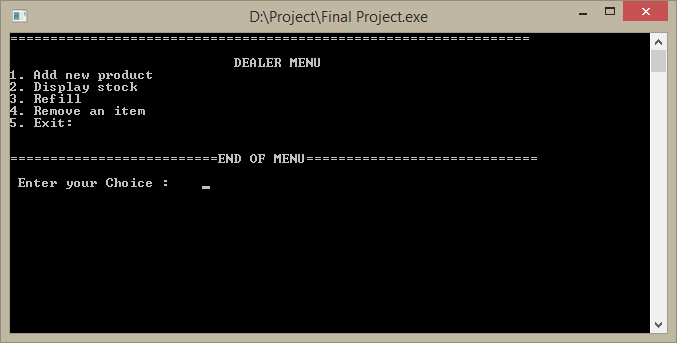
The objective of the program is to create, sell, calculate amount and update the stock of a shopping mart is successfully achieved by using a C++ program which uses File Handling concept.

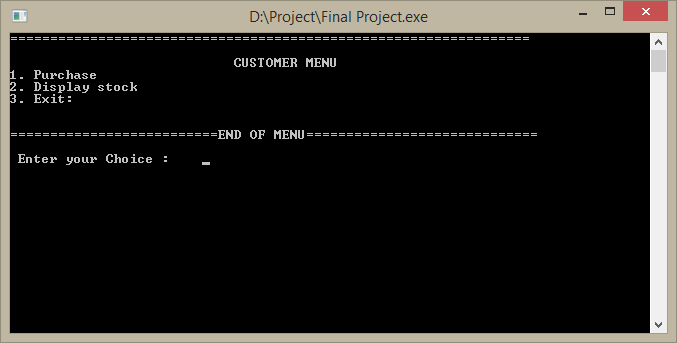
Sample input/output

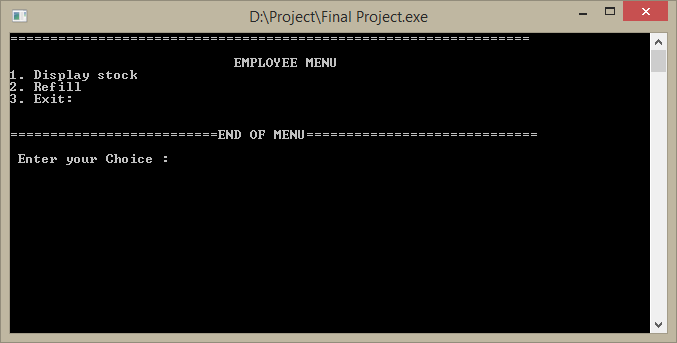
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