C++
SuperMarket Billing System

CERTIFICATE

*This is to certify that this Computer Science Project Report entitled "**SUPERMARKET BILLING SYSTEM**" submitted to Mayur Public School, I.P. Extension, Delhi, is a bonafide record of work done by **Ashish Jha** under my guidance which is being submitted as the partial fulfillment of the **AISSCE – 2015** examination.*

I wish them all the success in life.

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ACKNOWLEDGEMENT

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We also take this opportunity to express a deep sense of gratitude and respect to ***Mr. M. S. Rawat****,* ***Chairman – Mayur Public School*** *and* ***Mrs. Shakuntala Rawat****,* ***Principal – Mayur Public School*** *for their cordial support, valuable information and guidance which helped us in completing this task through various stages.*

We are obliged to the subject teachers of our school, for the valuable information provided by them in their respective fields. We are grateful for their cooperation during the period of our assignment.

Lastly, we thank almighty, our parents and other family members and friends for their constant encouragement without which this assignment would not be possible.

ASHISH JHA

CONTENTS

SYSTEM REQUIREMENTS

❖ HARDWARE REQUIRED

- **Printer, to print the required documents of the project**
- **Compact Drive**
- **Processor : Pentium III**
- **Ram : 64 MB**
- **Hard disk : 20 GB**

❖ SOFTWARE REQUIRED

- **Operating system : Windows XP,7**
- **Turbo C++, for execution of program and**
- **Ms word, for presentation of output**

INTRODUCTION AND WORK FLOW

The project is on Supermarket Billing. Supermarket is the place where customers come to purchase their daily using products and pay for that. So there is a need to calculate how many products are sold and to generate the bill for the customer.

In our project we have 2 users. First one is the administrator who will decide the taxes and commissions on the products and can see the report of any product. He is the one who will decide the products available for customers. The second one is the customer or the billing manager who can purchase the items available or can make the bill for the customers.

This project can also be used for online purchasing as the customer can access it easily.

Work in the Supermarket will be done in the following way:

1. The product will come in the store.
2. The Administrator will enter the information of the product in database and price and discount available for each product.
4. The customer will come and take the basket with him/her and choose the product and take it to the counter.
5. The bill calculating operator will enter the product number then it will show its information and price and the bill will be calculated and total payment will shown.
6. Customer will pay for the products.
7. All the products will be packed and delivered to the customer.

HEADER FILES AND DATA FILES USED

1. #include<conio.h>
   Functions used: getch( ), getche( ), gotoxy(X,Y).

2. #include<stdio.h>
   Functions used: puts( ), gets( ), rename( ), remove( ).

3. #include<process.h>
   Function used: exit( ).

4. #include<fstream.h>
   Functions used: open( ), close( ), seekp( ).

DATA FILES :

- Shop.dat
- Temp.dat

Classes and Objects Used

1. **product** : The object declared for this class is **pr**.

   This class stores the **product number**, **name**, **price**, **quantity**, **tax** and **discount** available on it; which are declared as **private members** so customers can not modify them.
   Functions of this class and their purpose**:**

   1. **create_product()**: This function is to be used by the administrator to add new products to their list.
   2. **show_product()**: This function is used by the administrator to display the details of all the products.
   3. **retpno()**:It returns the product number.
   4. **retprice()**: It returns the price of the product.
   5. **retname()**:It returns the name of the product.
   6. **retdis()**:It returns the discount available on the product.

2. fstream: The object declared for this class is **fp**. It is the predefined class used for both File-to-Memory/Memory-to-File linking.

Functions Used

1. write_product() : This function writes the information about the product in the file **Shop.dat.**

2. display_all() : This function displays all the records of products saved in the file **Shop.dat.**

3. display_sp() : This function displays some **specific records** based on the product number entered by the user.

4. modify_product() : This function modifies the product details by entering the product number.

5. delete_product(): This function deletes the product by entering the product number.

6. menu() : This function the product number, its name and its price.

7. place_order() :This function places order and generates bill for the products bought.

8. intro() : This function displays the project name and the developers.

9. admin_menu() : This function displays a list of function to be operated by administrator to modify/update products details .the function uses above user-defined functions.

10. main() : This is the main function which just the **MAIN MENU** from where the control is transferred to other functions.

SOURCE CODE

```
//*************************************************************
*********************

// HEADER FILE USED IN PROJECT

//*************************************************************
*********************

#include<conio.h>

#include<stdio.h>

#include<process.h>

#include<fstream.h>

//*************************************************************
*********************

// CLASS USED IN PROJECT

//*************************************************************
*********************
```

```
class product
{
int pno;
char name[50];
float price,qty,tax,dis;



public:
void create_product()
{
cout<<"\nPlease Enter The Product No. of
The Product ";
cin>>pno;
cout<<"\n\nPlease Enter The Name of The
Product ";
gets(name);
cout<<"\nPlease Enter The Price of The
Product ";
cin>>price;
cout<<"\nPlease Enter The Discount (%) ";
```

```
cin>>dis;
}
void show_product()
{
cout<<"\nThe Product No. of The Product :
"<<pno;
cout<<"\nThe Name of The Product : ";
puts(name);
cout<<"\nThe Price of The Product :
"<<price;
cout<<"\nDiscount : "<<dis;
}
int retpno()
{return pno;}
float retprice()
{return price;}
char* retname()
{return name;}
int retdis()
```

```
{return dis;}
}; //class ends here


//**************************************************
**********************

// global declaration for stream object,
object

//**************************************************
**********************

fstream fp;

product pr;

//**************************************************
**********************

// function to write in file

//**************************************************
**********************

void write_product()

{

fp.open("Shop.dat",ios::out|ios::app);

pr.create_product();
```

```
fp.write((char*)&pr,sizeof(product));
fp.close();
cout<<"\n\nThe Product Has Been Created ";
getch();
}
//***************************************************************
**********************
// function to read all records from file
//***************************************************************
**********************
void display_all()
{
clrscr();
cout<<"\n\n\n\t\tDISPLAY ALL RECORD
!!!\n\n";
fp.open("Shop.dat",ios::in);
while(fp.read((char*)&pr,sizeof(product)))
{
pr.show_product();
```

```
cout<<"\n\n================================
====\n";
getch();
}
fp.close();
getch();
}
//**************************************
*********************
// function to read specific record from
file
//**************************************
*********************
void display_sp(int n)
{
int flag=0;
fp.open("Shop.dat",ios::in);
while(fp.read((char*)&pr,sizeof(product)))
{
if(pr.retpno()==n)
```

```
{
clrscr();
pr.show_product();
flag=1;
}
}
fp.close();
if(flag==0)
cout<<"\n\nrecord not exist";
getch();
}
//************************************************
**********************
// function to modify record of file
//************************************************
**********************
void modify_product()
{
int no,found=0;
```

```
clrscr();
cout<<"\n\n\tTo Modify ";
cout<<"\n\n\tPlease Enter The Product No.
of The Product";
cin>>no;
fp.open("Shop.dat",ios::in|ios::out);
while(fp.read((char*)&pr,sizeof(product))
&& found==0)
{
if(pr.retpno()==no)
{
pr.show_product();
cout<<"\nPlease Enter The New Details of
Product"<<endl;
pr.create_product();
int pos=-1*sizeof(pr);
fp.seekp(pos,ios::cur);
fp.write((char*)&pr,sizeof(product));
cout<<"\n\n\t Record Updated";
found=1;
```

```
}
}
fp.close();
if(found==0)
cout<<"\n\n Record Not Found ";
getch();
}
//**************************************************
*********************
// function to delete record of file
//**************************************************
*********************
void delete_product()
{
int no;
clrscr();
cout<<"\n\n\n\tDelete Record";
cout<<"\n\nPlease Enter The product no. of
The Product You Want To Delete";
cin>>no;
```

```
fp.open("Shop.dat",ios::in|ios::out);
fstream fp2;
fp2.open("Temp.dat",ios::out);
fp.seekg(0,ios::beg);
while(fp.read((char*)&pr,sizeof(product)))
{
if(pr.retpno()!=no)
{
fp2.write((char*)&pr,sizeof(product));
}
}
fp2.close();
fp.close();
remove("Shop.dat");
rename("Temp.dat","Shop.dat");
cout<<"\n\n\tRecord Deleted ..";
getch();
}
```

```
//*************************************************
**********************

// function to display all products price
list

//*************************************************
**********************

void menu()

{

clrscr();

fp.open("Shop.dat",ios::in);

if(!fp)

{

cout<<"ERROR!!! FILE COULD NOT BE
OPEN\n\n\n Go To Admin Menu to create";

cout<<"\n\n\n Program is closing ....";

getch();

exit(0);

}

cout<<"\n\n\t\tProduct MENU\n\n";
```

```
cout<<"=================================
================\n";
cout<<"P.NO.\t\tNAME\t\tPRICE\n";
cout<<"=================================
================\n";
while(fp.read((char*)&pr,sizeof(product)))
{
cout<<pr.retpno()<<"\t\t"<<pr.retname()<<"\
t\t"<<pr.retprice()<<endl;
}
fp.close();
}


//*****************************************
*********************
// function to place order and generating
bill for Products
//*****************************************
*********************
void place_order()
{
```

```
int order_arr[50],quan[50],c=0;
float amt,damt,total=0;
char ch='Y';
menu();
cout<<"\n================================";
cout<<"\n PLACE YOUR ORDER";
cout<<"\n================================\n";
do{
cout<<"\n\nEnter The Product No. Of The
Product : ";
cin>>order_arr[c];
cout<<"\nQuantity in number : ";
cin>>quan[c];
c++;
cout<<"\nDo You Want To Order Another
Product ? (y/n)";
cin>>ch;
}while(ch=='y' ||ch=='Y');
cout<<"\n\nThank You For Placing The
Order";getch();clrscr();
```

```
cout<<"\n\n**************************** INVOICE**********************\n";

cout<<"\nPr No.\tPr Name\tQuantity \tPrice \tAmount \tAmount after Discount\n";

for(int x=0;x<=c;x++)

{

fp.open("Shop.dat",ios::in);

fp.read((char*)&pr,sizeof(product));

while(!fp.eof())

{

if(pr.retpno()==order_arr[x])

{

amt=pr.retprice()*quan[x];

damt=amt-(amt*pr.retdis()/100);

cout<<"\n"<<order_arr[x]<<"\t"<<pr.retname( )

<<"\t"<<quan[x]<<"\t\t"<<pr.retprice()<<"\t "<<amt<<"\t\t"<<damt;

total+=damt;

}
```

```
fp.read((char*)&pr,sizeof(product));
}
fp.close();
}
cout<<"\n\n\t\t\t\t\tTOTAL = "<<total;
getch();
}
//*************************************************************
*********************
// INTRODUCTION FUNCTION
//*************************************************************
*********************


void intro()
{
clrscr();
gotoxy(20,7);
cout<<"@@@@@@@@@@ W E L C O M E
@@@@@@@@@@@@   : D";
gotoxy(25,9);
```

```
cout<<"########### T O #############
:D";

gotoxy(20,11);

cout<<"$$$$$$$$$$ THE SUPER MARKET
$$$$$$$$$$$$    :D";

gotoxy(20,14);

cout<<"%%%%%%%%%% BILLING MANANGMENT
%%%%%%%%%%%%    :D";

gotoxy(24,17);

cout<<"********** PROJECT ************
:D";

cout<<"\n\nMADE BY : ASHISH JHA, AKASH
TYAGI ";

cout<<"\n\nCLASS : XII ";

cout<<"\n\nSCHOOL : MAYUR PUBLIC SCHOOL ";

getch();

}


//*************************************************
**********************

// ADMINSTRATOR MENU FUNCTION
```

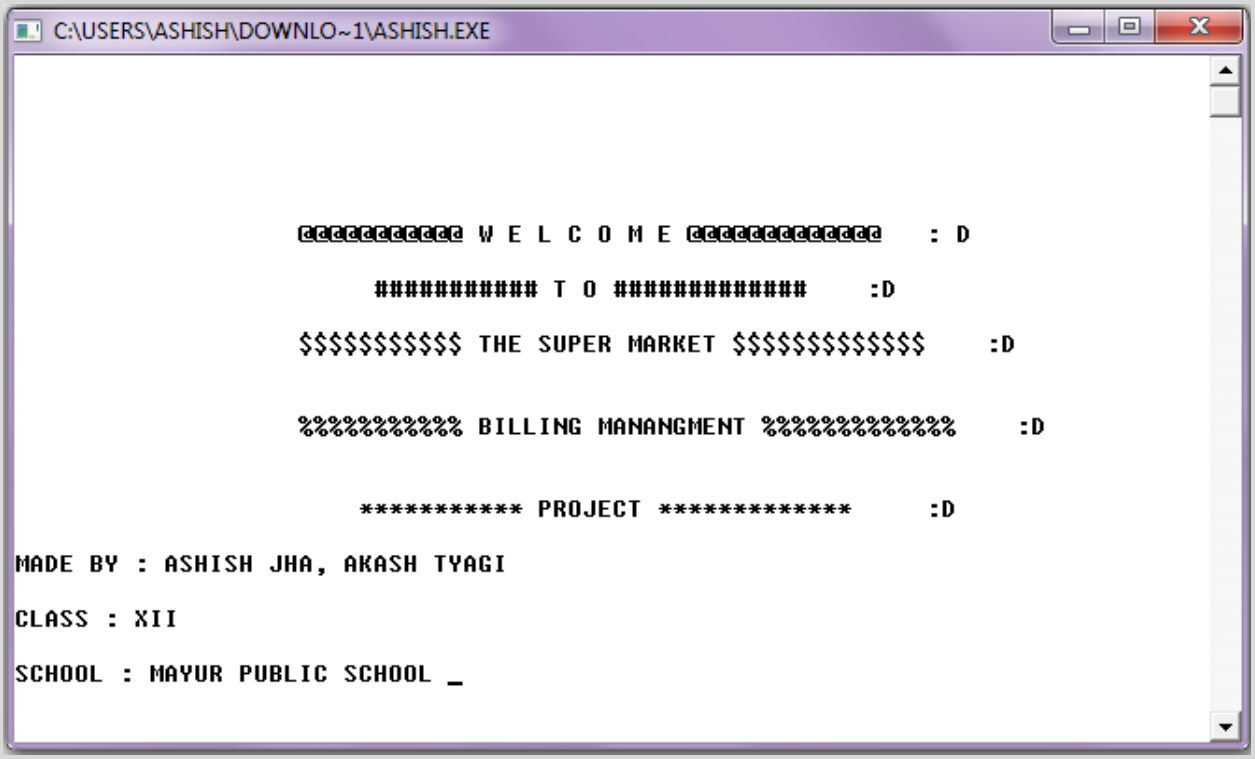
```
//**********************************************************
**********************
void admin_menu()
{
clrscr();
char ch2;
cout<<"\n\n\n\tADMIN MENU";
cout<<"\n\n\t1.CREATE PRODUCT";
cout<<"\n\n\t2.DISPLAY ALL PRODUCTS";
cout<<"\n\n\t3.QUERY ";
cout<<"\n\n\t4.MODIFY PRODUCT";
cout<<"\n\n\t5.DELETE PRODUCT";
cout<<"\n\n\t6.VIEW PRODUCT MENU";
cout<<"\n\n\t7.BACK TO MAIN MENU";
cout<<"\n\n\tPlease Enter Your Choice (1-7)
";
ch2=getche();
switch(ch2)
{
```

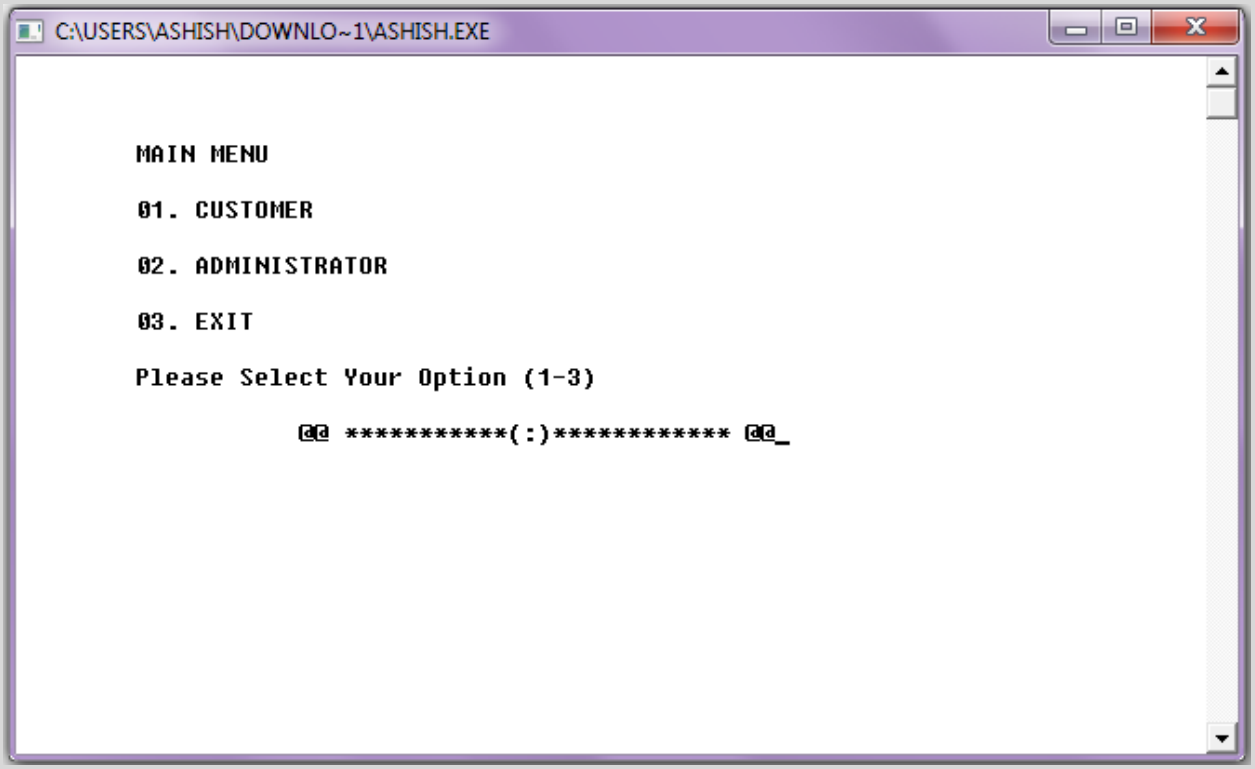
```
case '1': clrscr();
write_product();
break;
case '2': display_all();break;
case '3':
int num;
clrscr();
cout<<"\n\n\tPlease Enter The Product No.
";
cin>>num;
display_sp(num); break;
case '4': modify_product();break;
case '5': delete_product();break;
case '6': menu();
getch();
case '7': break;
default:cout<<"\a";admin_menu();
}
}
```

```
//**************************************************
**********************

// THE MAIN FUNCTION OF PROGRAM

//**************************************************
**********************

void main()

{

char ch;

intro();

do

{

clrscr();

cout<<"\n\n\n\tMAIN MENU";

cout<<"\n\n\t01. CUSTOMER";

cout<<"\n\n\t02. ADMINISTRATOR";

cout<<"\n\n\t03. EXIT";

cout<<"\n\n\tPlease Select Your Option (1-
3) ";

cout<<"\n\n\t              @@
**********(:)********** @@";
```

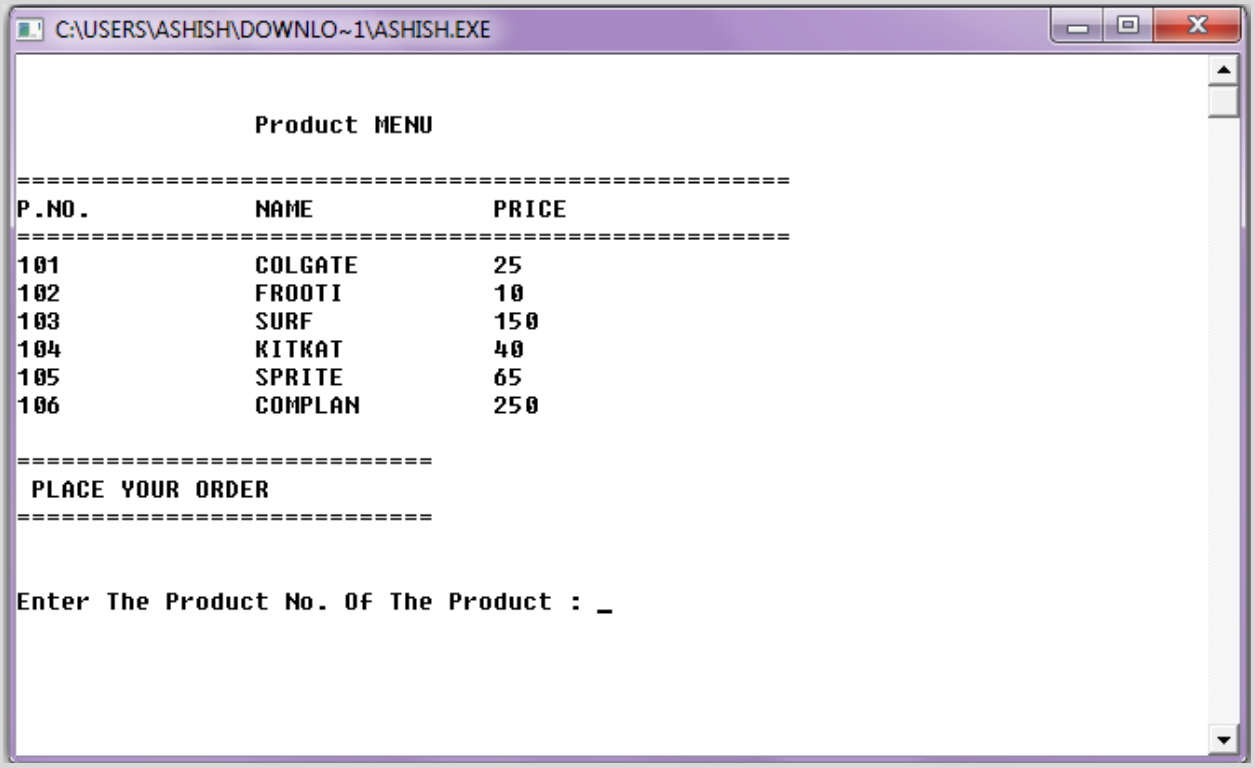
```
ch=getche();
switch(ch)
{
case '1': clrscr();
place_order();
getch();
break;
case '2': admin_menu();
break;
case '3':exit(0);
default :cout<<"\a";
}
}while(ch!='3');
}
//*************************************************
**********************
// END OF PROJECT
//*************************************************
**********************
```

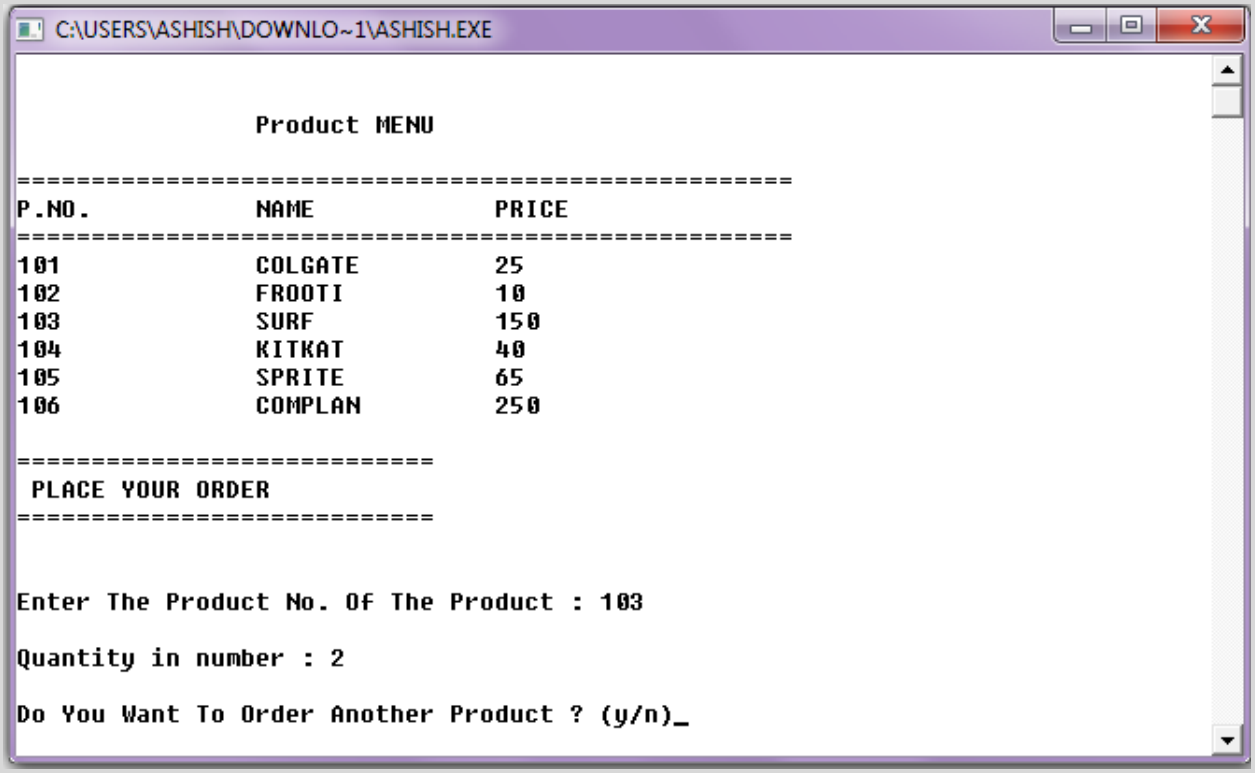
OUTPUT

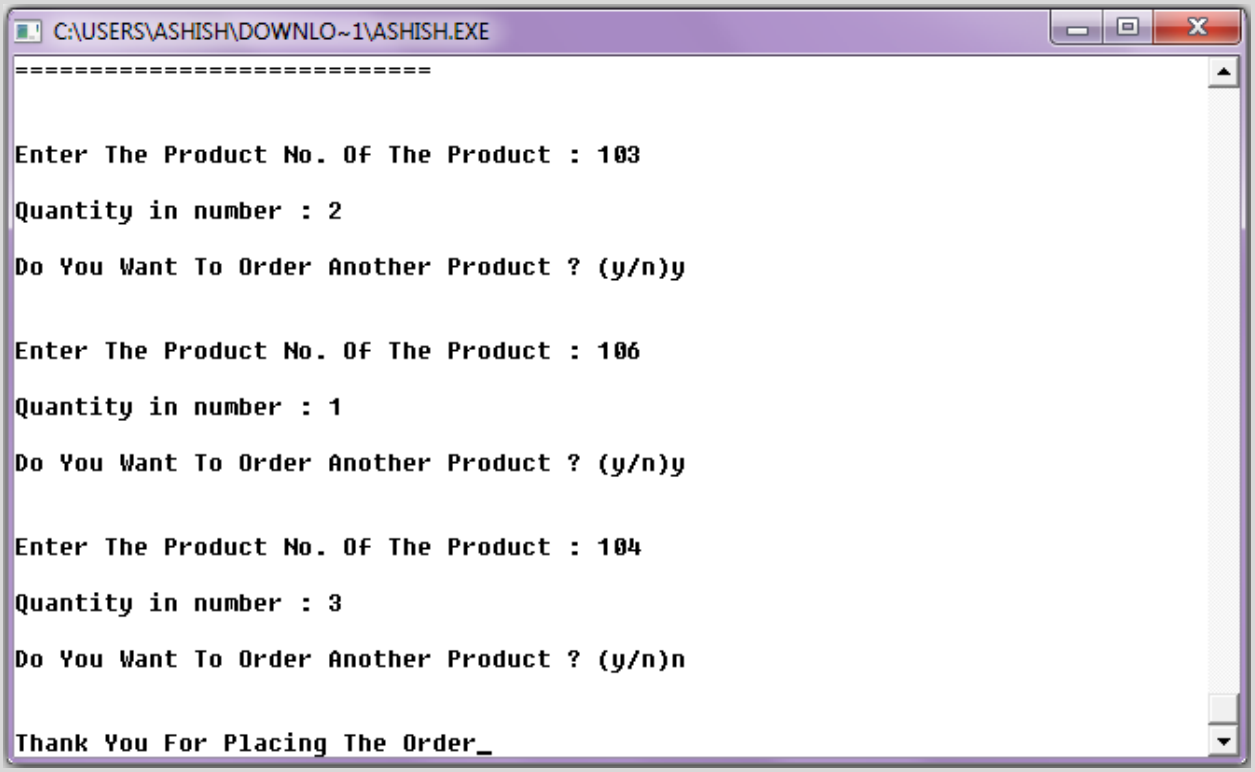

C:\USERS\ASHISH\DOWNLO~1\ASHISH.EXE
@@@@@@@@@@@@ W E L C O M E @@@@@@@@@@@@@@ : D
########## T O ############## :D
$$$$$$$$$$ THE SUPER MARKET $$$$$$$$$$$$$:D
%%%%%%%%%% BILLING MANANGMENT %%%%%%%%%%%% :D
********** PROJECT ********** :D
MADE BY : ASHISH JHA, AKASH TYAGI
CLASS : XII
SCHOOL : MAYUR PUBLIC SCHOOL _


C:\USERS\ASHISH\DOWNLO~1\ASHISH.EXE
MAIN MENU
01. CUSTOMER
02. ADMINISTRATOR
03. EXIT
Please Select Your Option (1-3)
@@ **********(:)********** @@_

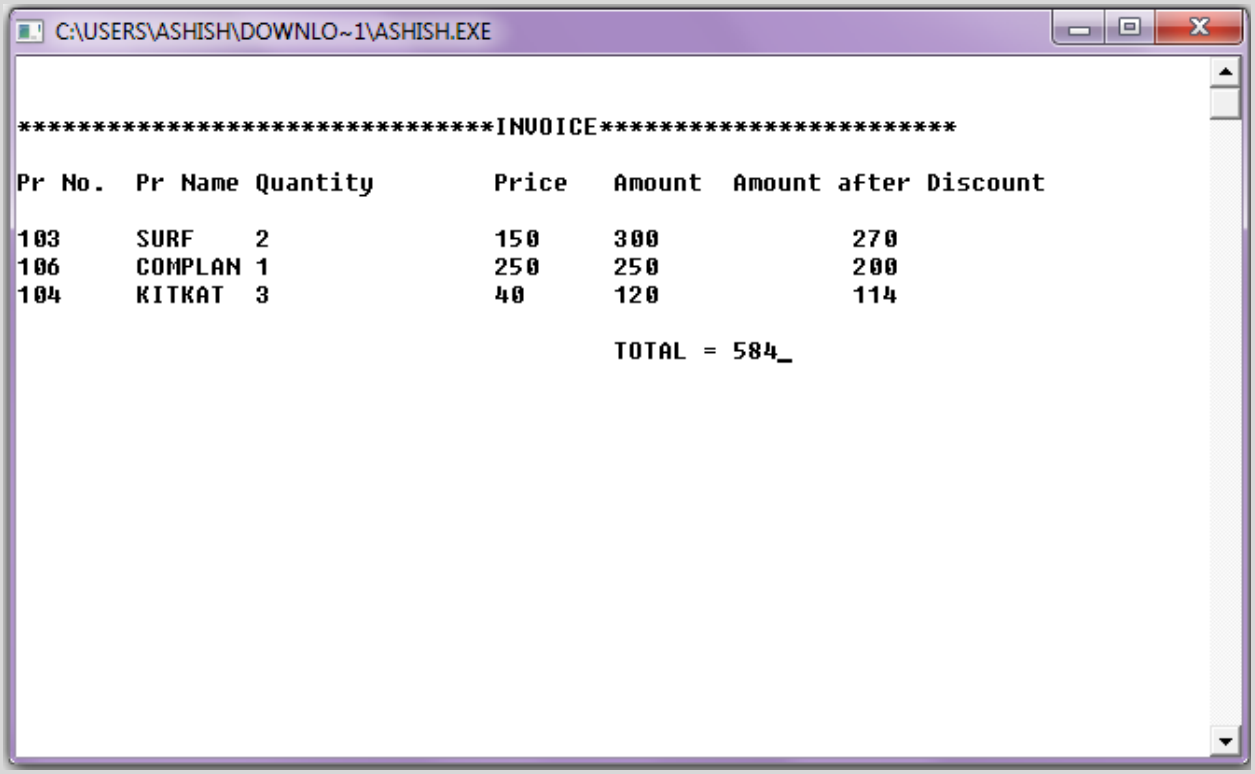
CUSTOMER PLACING ORDER



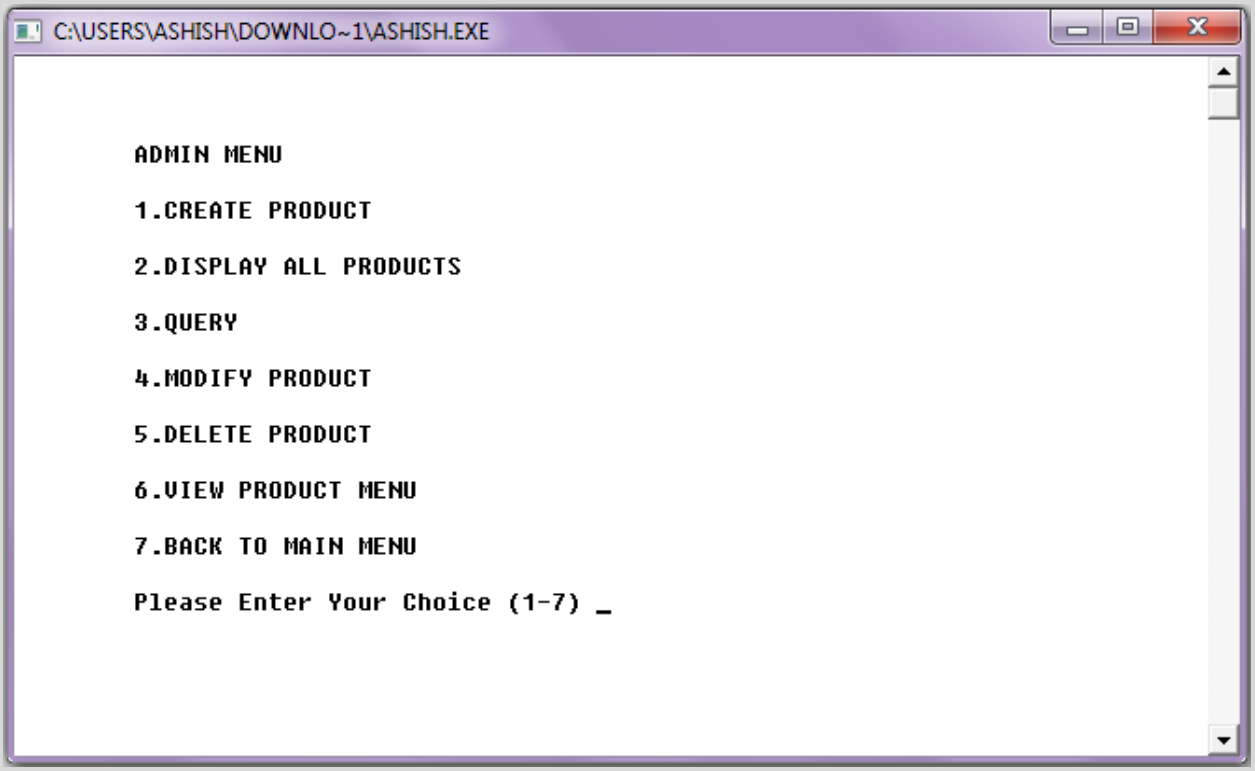



C:\USERS\ASHISH\DOWNLO~1\ASHISH.EXE
==========
Enter The Product No. Of The Product : 103
Quantity in number : 2
Do You Want To Order Another Product ? (y/n)y
Enter The Product No. Of The Product : 106
Quantity in number : 1
Do You Want To Order Another Product ? (y/n)y
Enter The Product No. Of The Product : 104
Quantity in number : 3
Do You Want To Order Another Product ? (y/n)n
Thank You For Placing The Order_

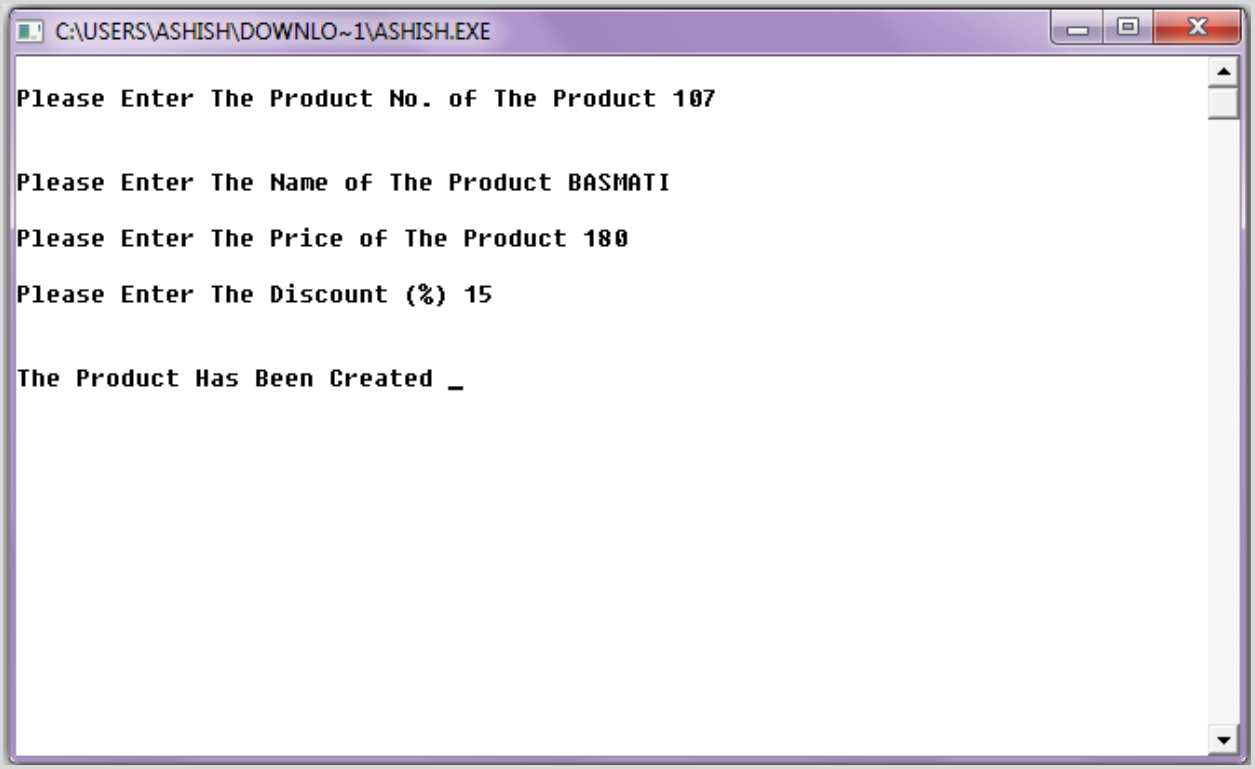
BILL


C:\USERS\ASHISH\DOWNLO~1\ASHISH.EXE
**********INVOICE**********
Pr No. Pr Name Quantity Price Amount Amount after Discount
103 SURF 2 150 300 270
106 COMPLAN 1 250 250 200
104 KITKAT 3 40 120 114
TOTAL = 584_

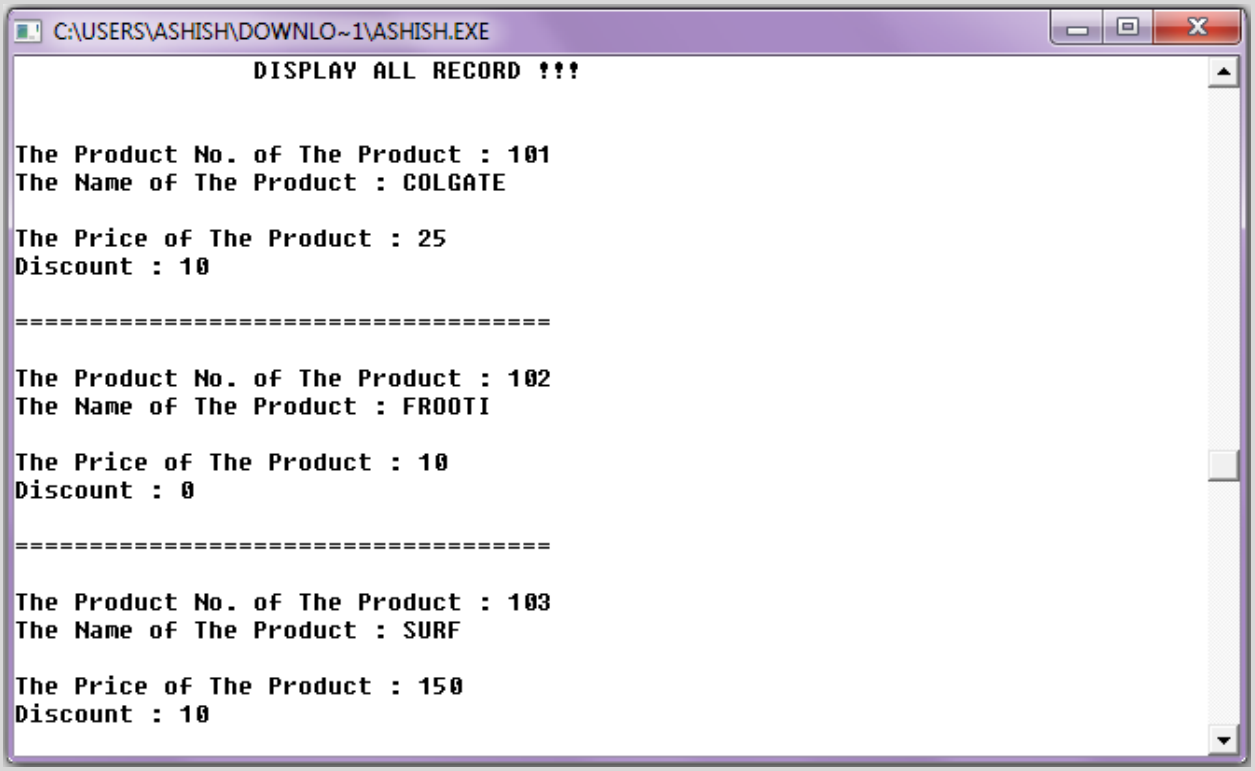
ADMIN MENU

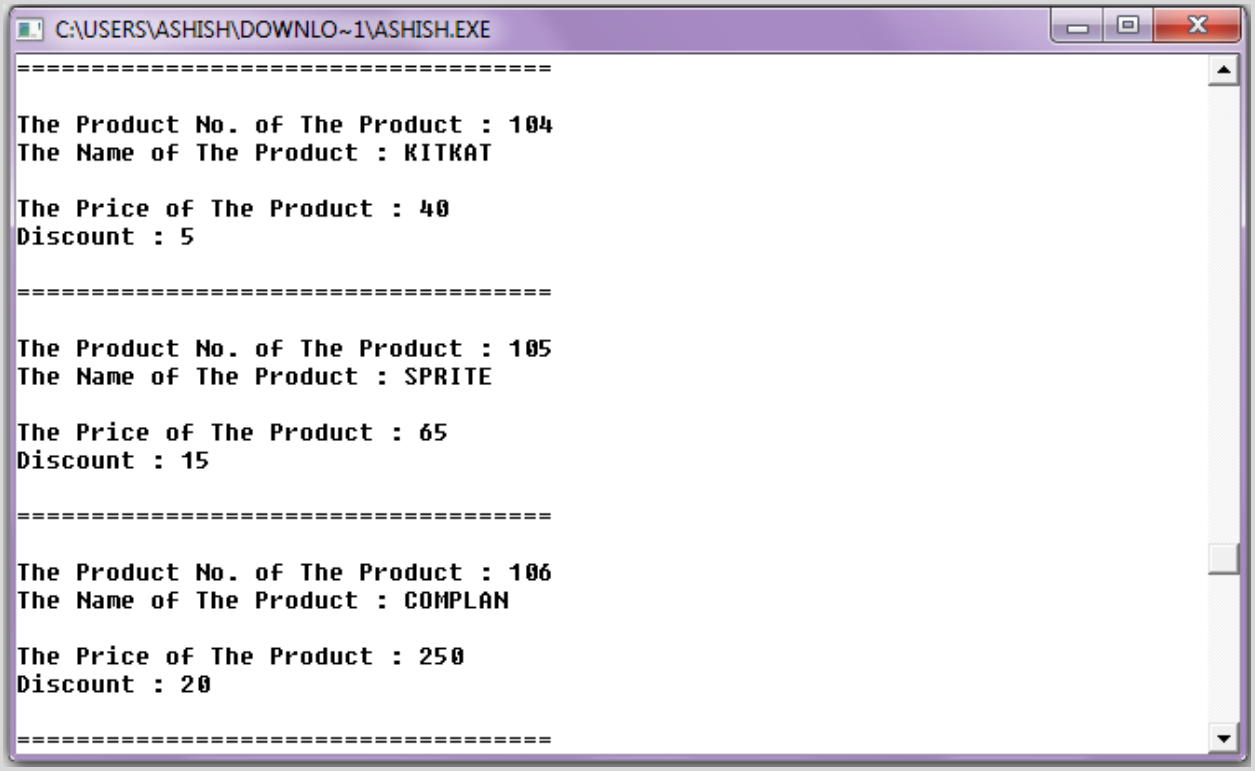


PRODUCT CREATION

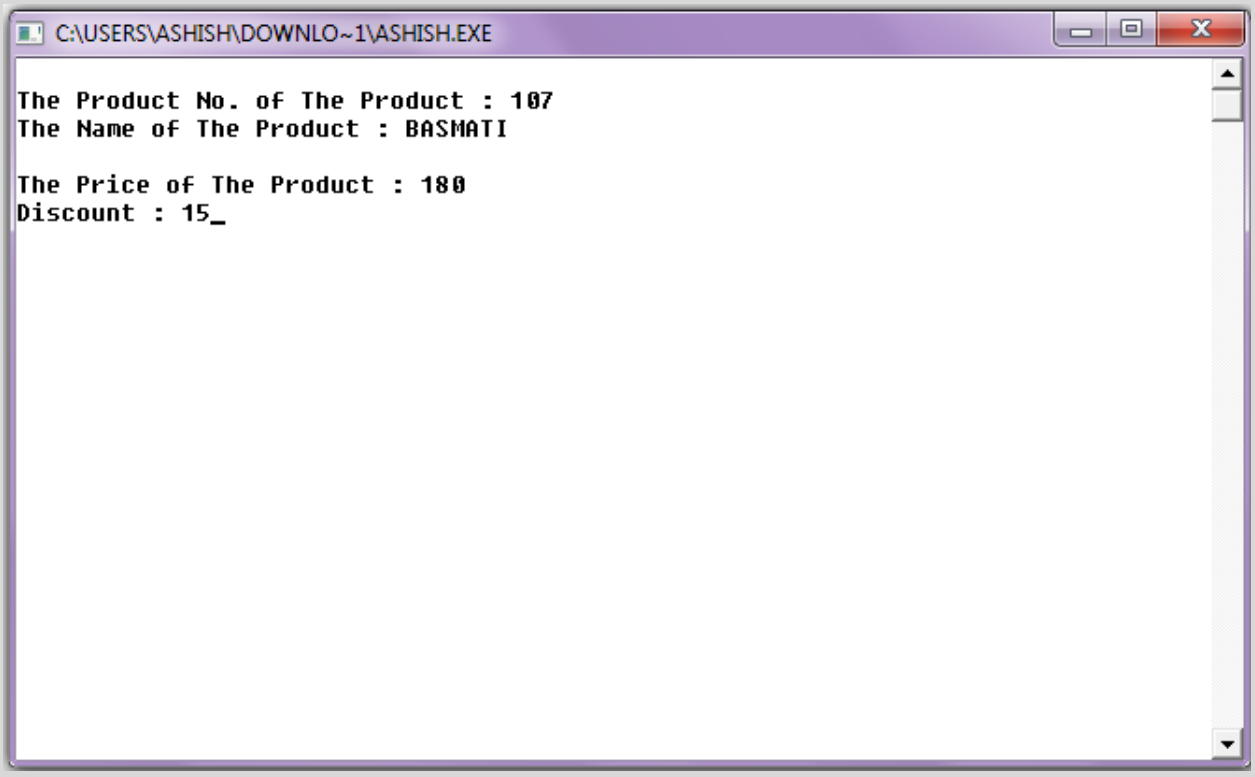


DISPLAYING ALL PRODUCTS

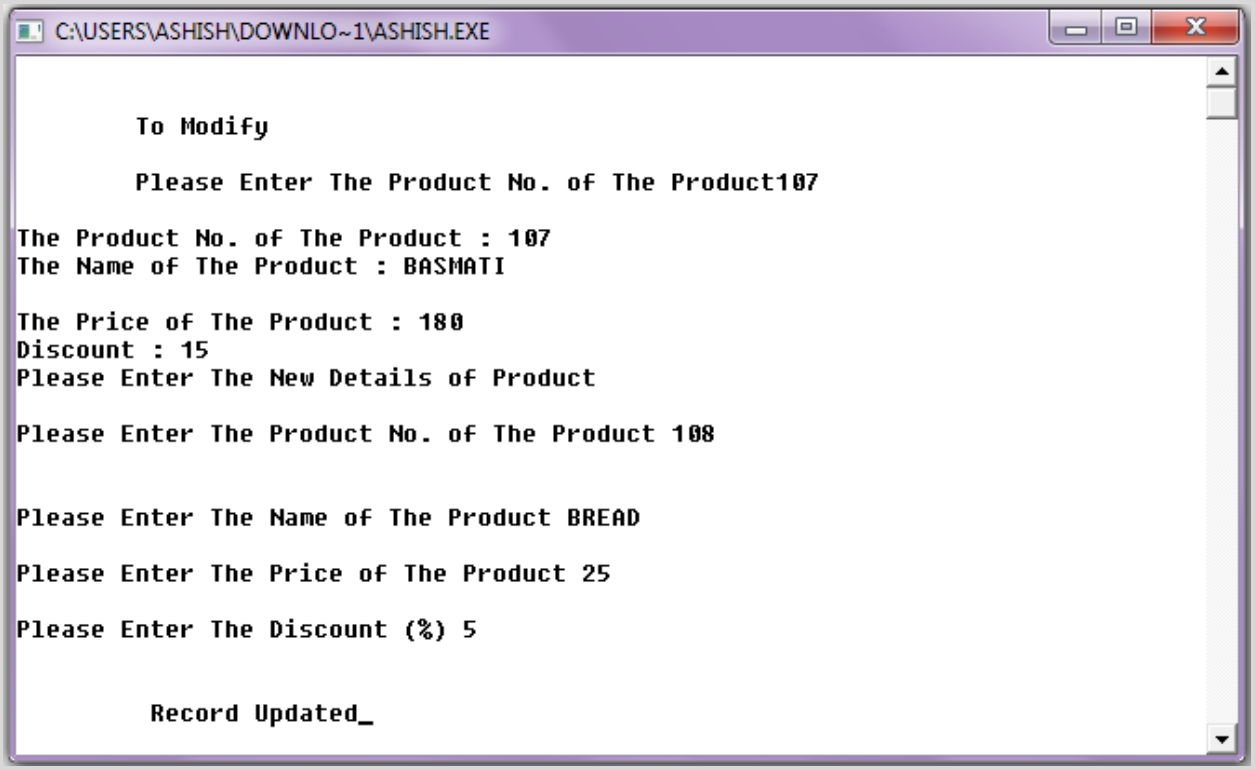

C:\USERS\ASHISH\DOWNLO~1\ASHISH.EXE
DISPLAY ALL RECORD !!!
The Product No. of The Product : 101
The Name of The Product : COLGATE
The Price of The Product : 25
Discount : 10
==========
The Product No. of The Product : 102
The Name of The Product : FROOTI
The Price of The Product : 10
Discount : 0
==========
The Product No. of The Product : 103
The Name of The Product : SURF
The Price of The Product : 150
Discount : 10


C:\USERS\ASHISH\DOWNLO~1\ASHISH.EXE
==========
The Product No. of The Product : 104
The Name of The Product : KITKAT
The Price of The Product : 40
Discount : 5
==========
The Product No. of The Product : 105
The Name of The Product : SPRITE
The Price of The Product : 65
Discount : 15
==========
The Product No. of The Product : 106
The Name of The Product : COMPLAN
The Price of The Product : 250
Discount : 20
==========

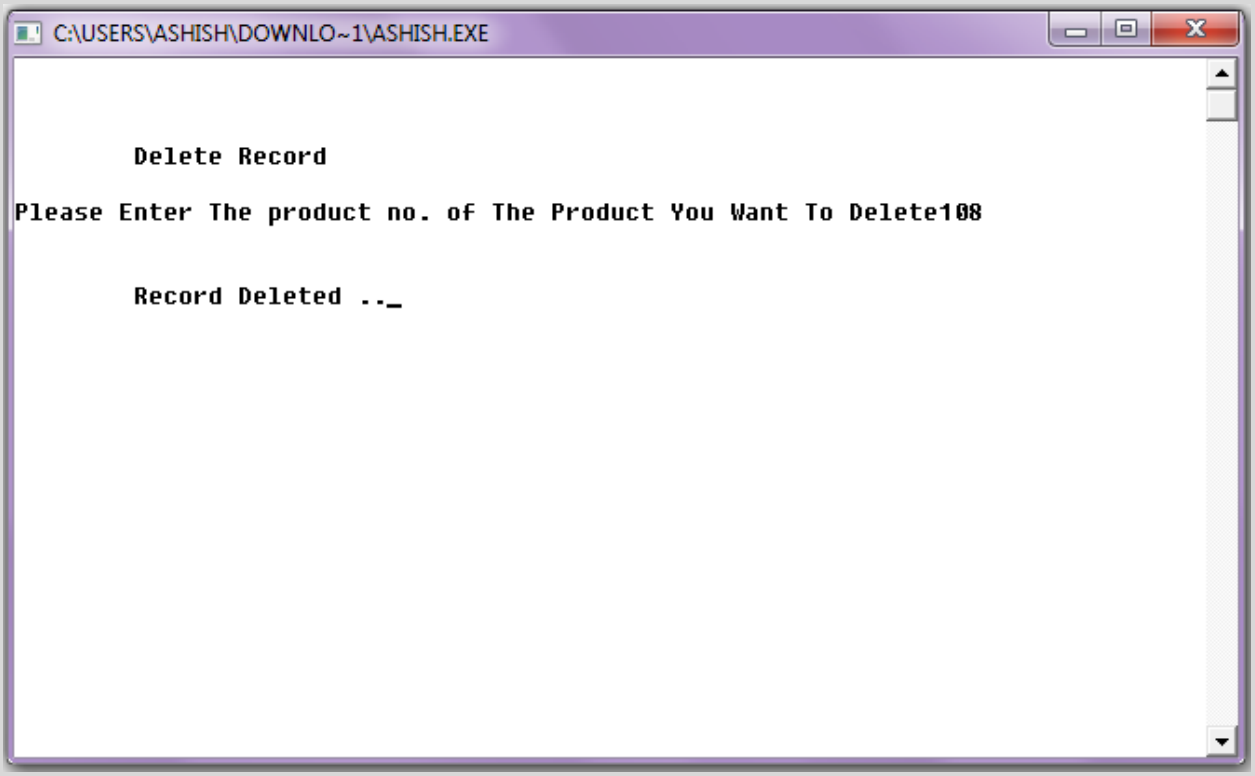
QUERY



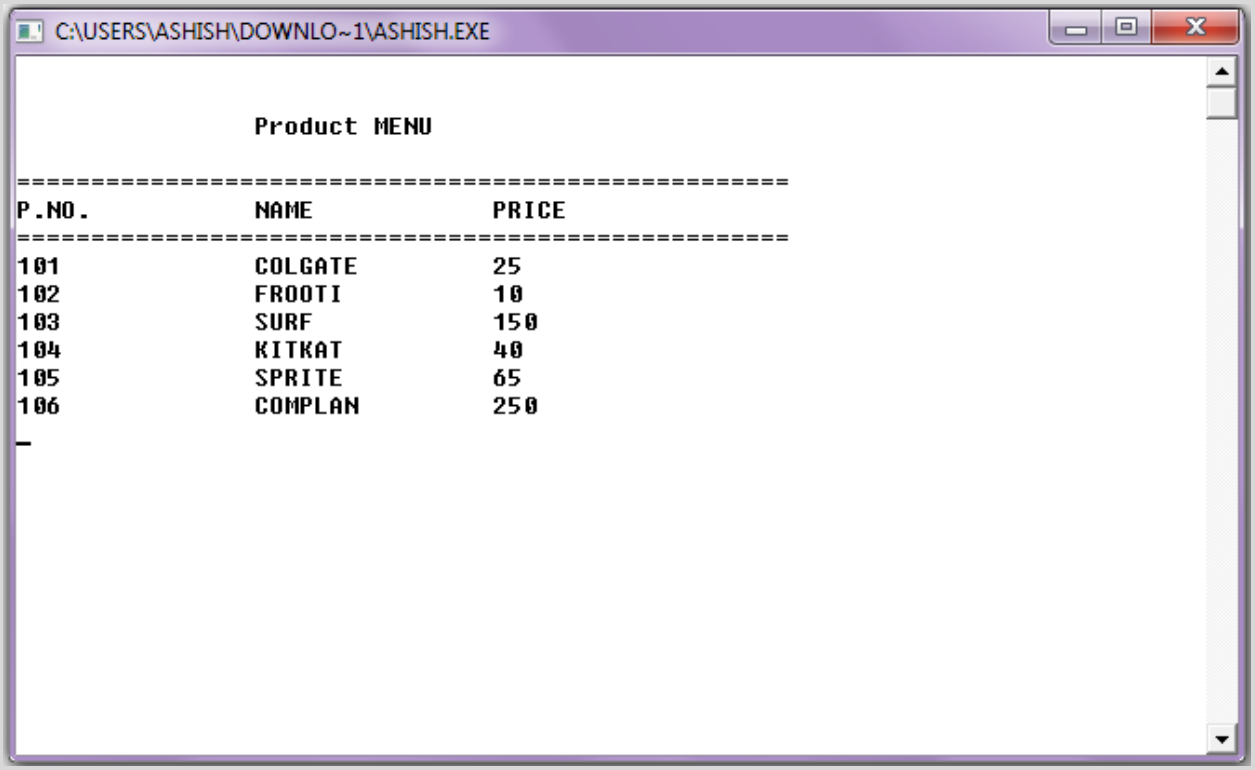
PRODUCT MODIFICATION



PRODUCT DELETION



PRODUCT MENU



LIMITATIONS AND SUGGESTED UPGRADATION

The project may acquire the following upgradations to make it more effective :

- *Program should display information of total available items in the stock.*
- *Program should increase the discount percentage if the quantity of items to be purchased increases beyond a certain limit.*
- *Program should keep account of the total collection of the supermarket.*

BIBLIOGRAPHY

The following sources had helped us a lot during the making of this project :

- *Sumita Arora – Computer Science with C++*
- *E. Balagurusami – C++*
- *Robert Lafore – Turbo C++*