Super Market Management System

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Description:

My goal is to develop a business application that provides ease to the Shopkeepers and Super Market Employees and Customers. Following are some of the things that can help Admin, Employees & Customers to access easily with each other.

- Admin can easily check how much income is Produced & all other general things.
- Employees can add, update, delete and print bills. Customers can view product and see offered discount,
- Admin adds new employee so that there is no complexity left.
- Admin can easily calculate the gross income and net income & can keep its record for future needs, also admin can display some useful notifications to the Employees like about offer discount and Employees can also get that notice so that they can implement discount.

There are some major problems that the normal Shop keepers and Super market managers faces during managing the market tasks. This program will help them overcoming such problems.
I am developing a program that will help both user, Employee & admin to manage the common problems easily, like admin can give notice of important announcements.

Users:

- Admin
- Employee
- Customers

Functional Requirements:

Follow are some functional Requirements fulfilled by this system. Admin, Employees and Customers can login into the management system with unique usernames & passwords.

Admin

- “1. View Stock”
- “2. Add new Employees”
- “3. Gross Income”
- “4. Transfer Salaries”
- “5. Pay Bills
- “6. Total Profit”
- “7. History of Sales”

- "8. Offer Discount"
- "9. Leave Message
- "0. Return to Starting Menu"

Employees

- "1. Add Stock"
- "2. Update Stock"
- "3. Delete Stock"
- "4. View Stock"
- "5. Sale Products"
- "6. Check Admin Message"
- "7. View and Maintain Stock"
- "0. Return to Main Menu"

Customers

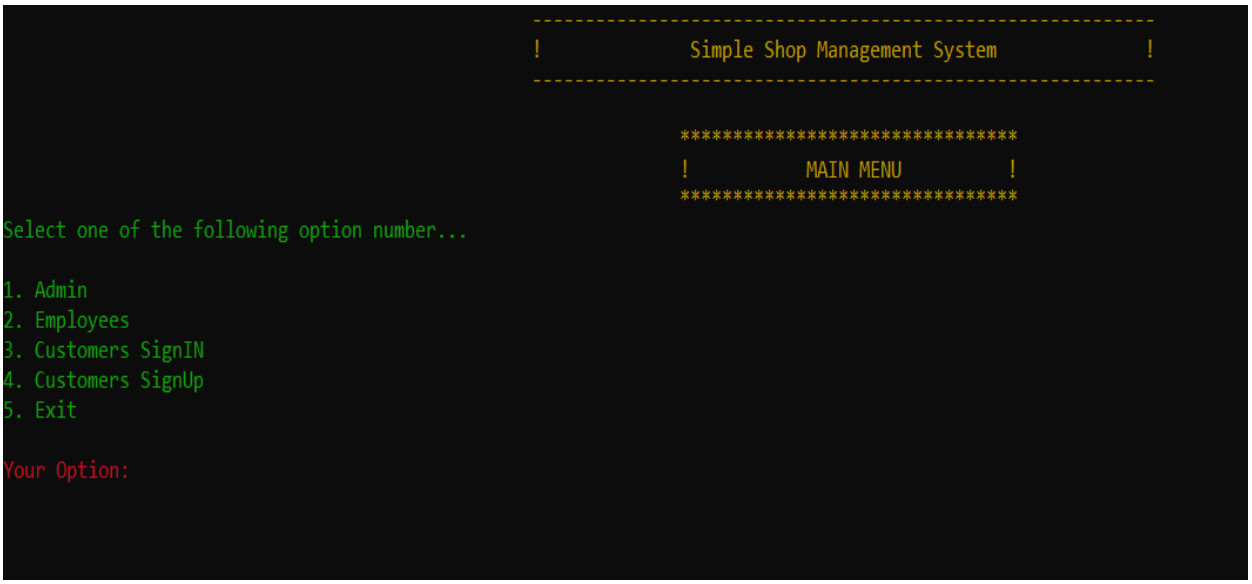
- "1. View Products"
- "2. View Discounted Products"
- "3. Return to Main Menu"

Wireframes & Explanation

- **Login**

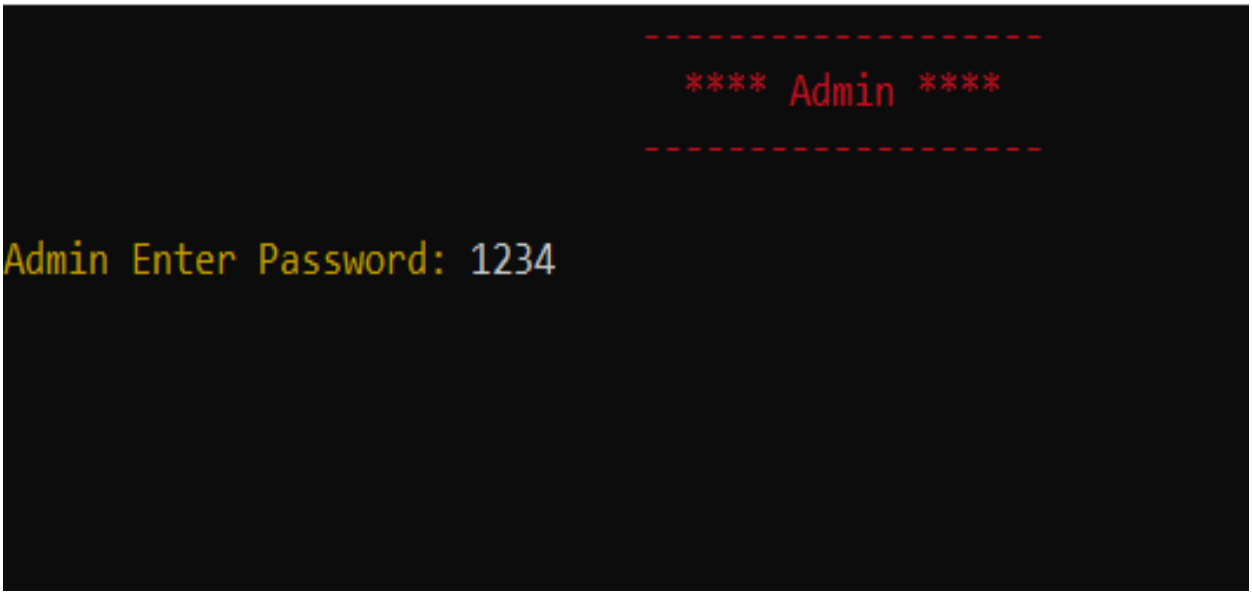
  As you start the program the login page will appear, the Admin, Employee, Customers, Customer Sign Up and Exit, Admin can login the program using the unique Password. Employees can login through their unique usernames & passwords assigned to them by Admin. Customers can Sign Up and then can Sigh In.

- **Main Login Screen**



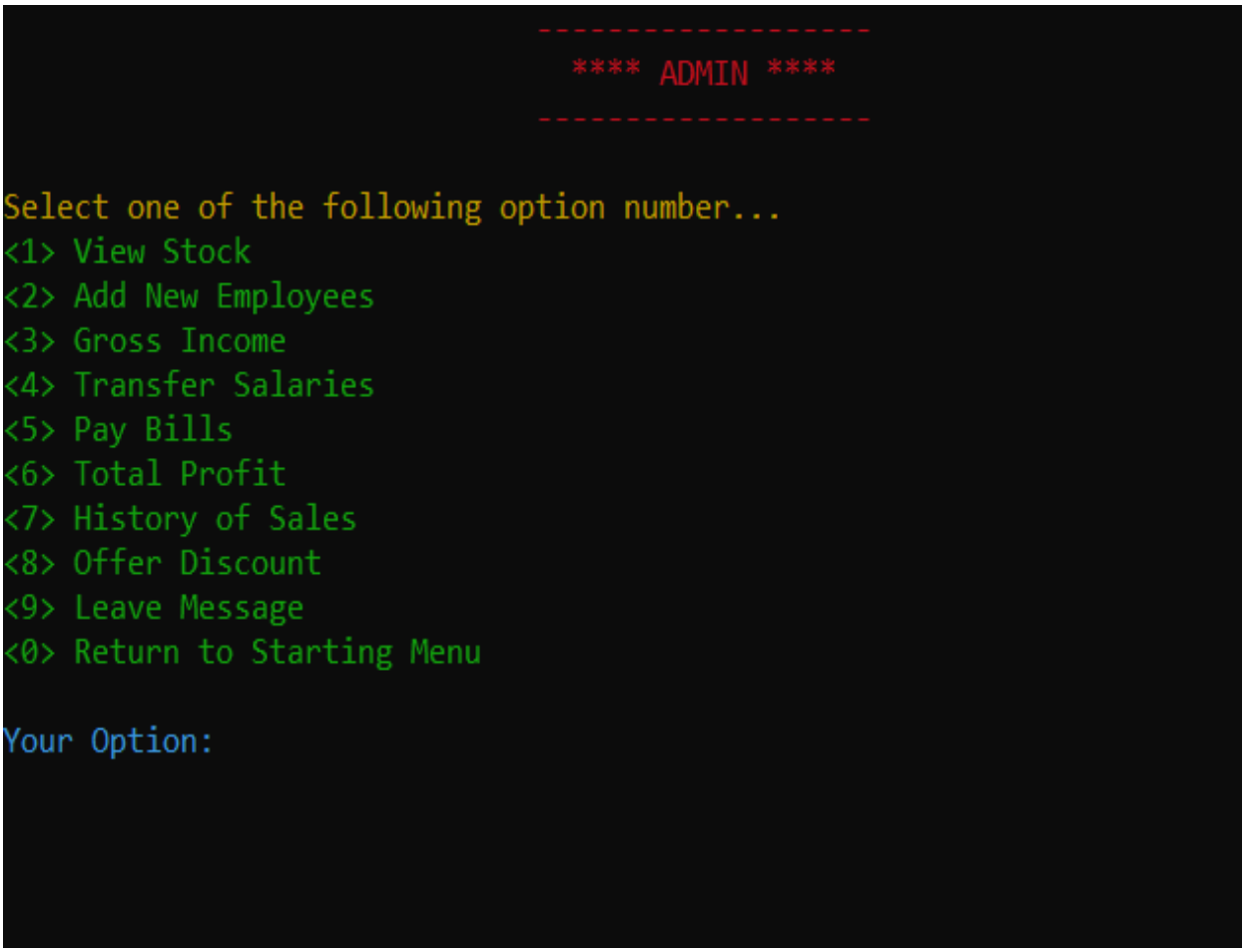
Admin's Login

As the option 1 is selected from the main login the below screen pops up,



Admin's Main Menu

When the correct password is entered, the admins main menu opens,



Option 1

Admin can view stock in the following options, added by the Employees.

- ✓ Assending Order
- ✓ Desending Order

```
--------------------
**** Admin ****
--------------------

VIEW STOCK

You can View stock in these Order...
1. Assending Order
2. Desending Order

Your Option:
```

```
-----------------
**** Admin ****
-----------------

VIEW STOCK

Sr.No       Product_Name        Quantity        Purchasing_Price        Selling_Price

1           Mango Shake         2               40                      60
2           ls                  10              100                     110
3           copi                20              50                      60
4           Lasi                34              4567                    4576
```

Option 2

Admin Can add Employees.

Option 3
Admin can view the gross Income generated.

Option 4
Admin can transfer the salaries of the Employees.

Option 5
Admin can view the total bills like Electricity, Wifi.

Option 6
Admin can view the Total Profit income generated after transferring Salaries, buying Stock & paying Bills.

Option 7
Admin can view the History of Sales.

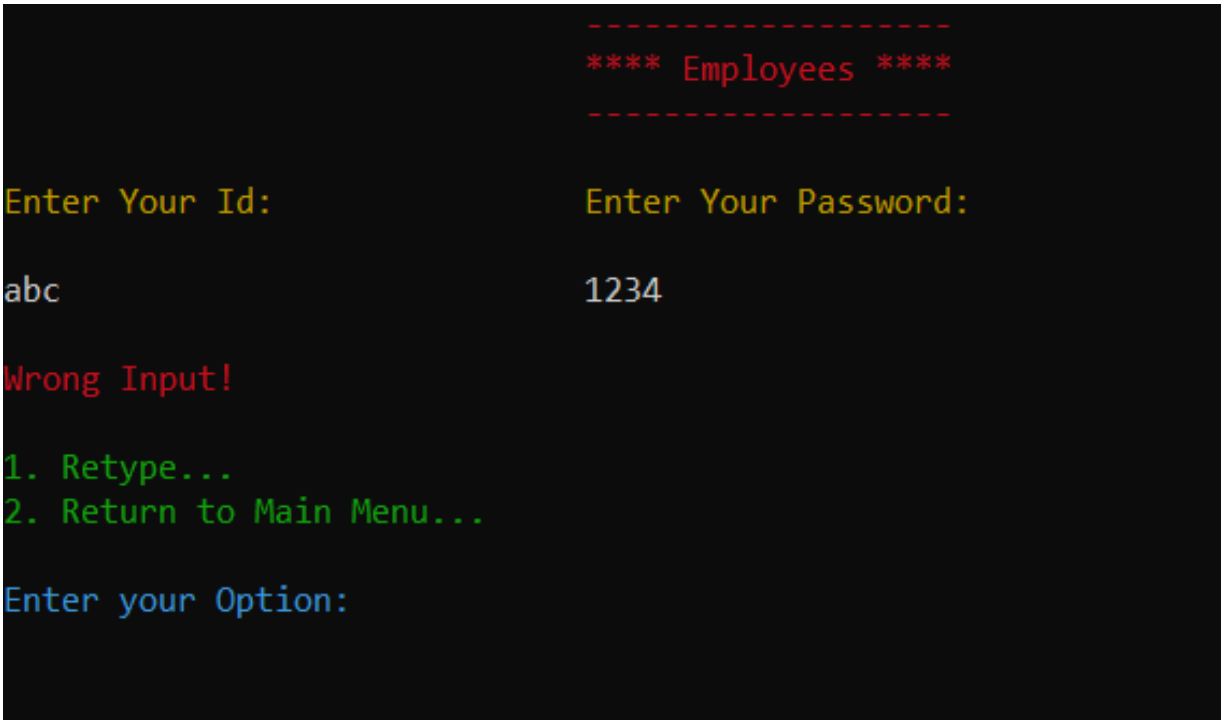
Option 8
Admin can offer discount.

Option 9
Admin can leave message for the Employees.

Option 0
Admin can return to Main Menu or Log Out.

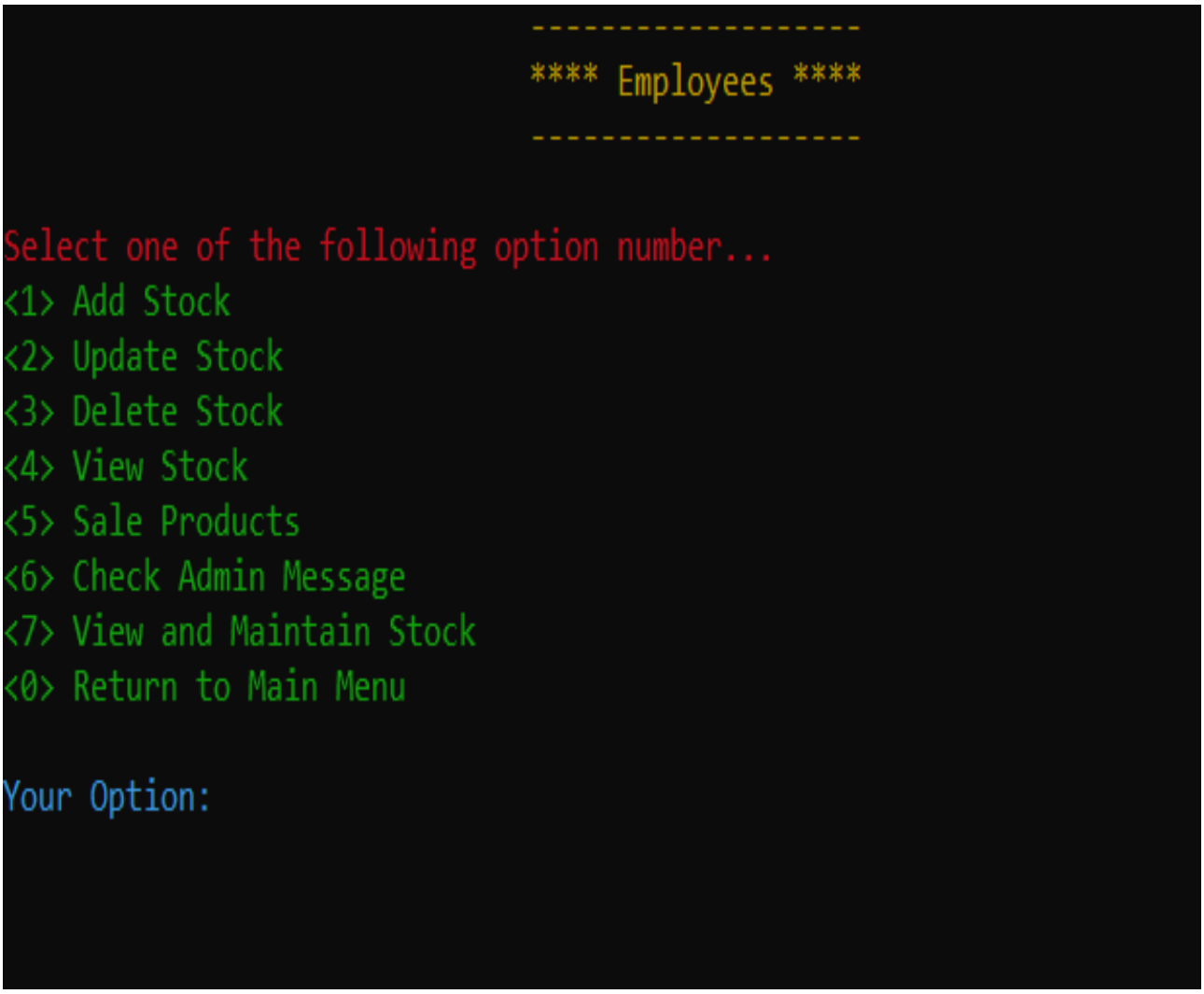
Employees Login

As the option No 2 is selected from the main Menu option, the Employees login menu will pop up. In case of wrong Input.



Employee Main Menu

After entering the correct id and password credentials, the main menu for Employee comes up.

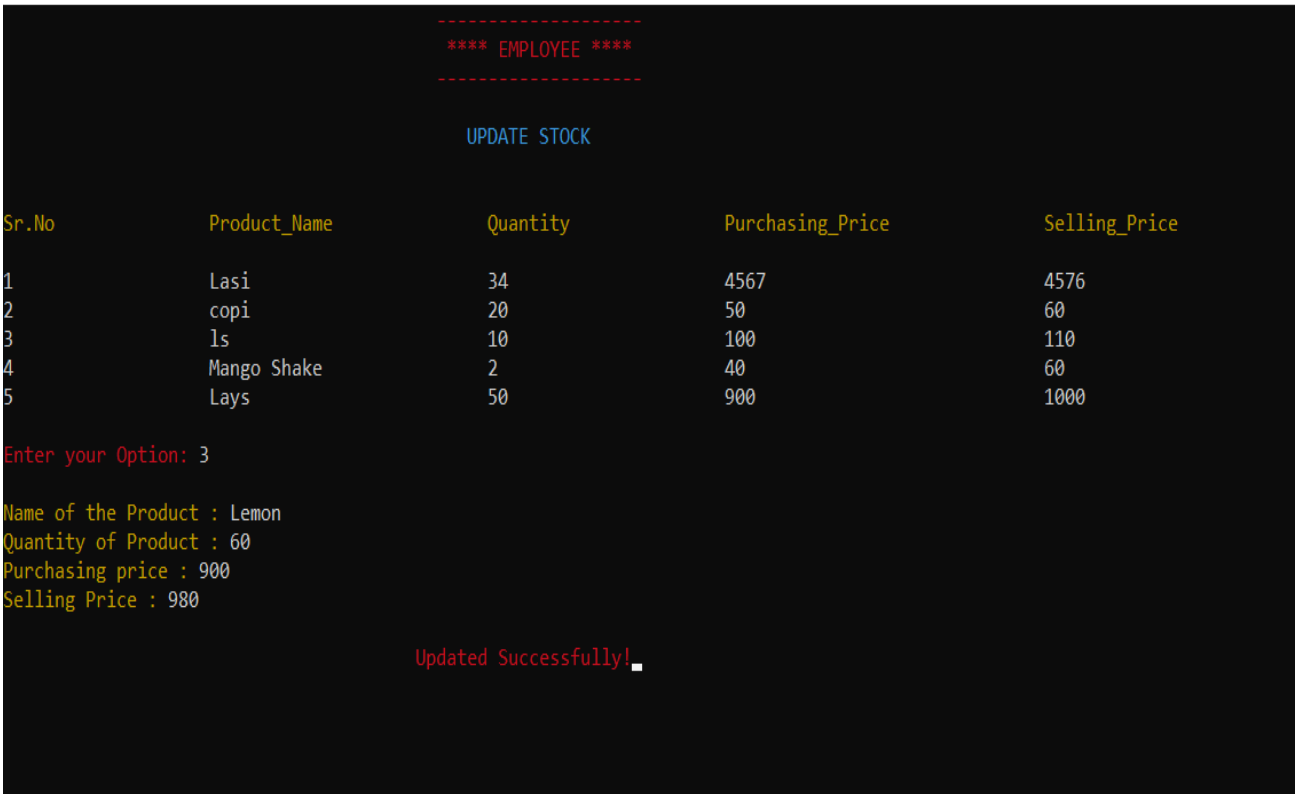


Option 1

The Employee can add the Products.

Option 2

The Employee can update the Products.



Updated Product is

Sr.No	Product_Name	Quantity	Purchasing_Price	Selling_Price
1	Mango Shake	2	40	60
2	Lasi	34	4567	4576
3	Lays	50	900	1000
4	Lemon	60	900	980

Option 3

The student can delete the Products.

After Deleting the Product:

Sr.No	Product_Name	Quantity	Purchasing_Price	Selling_Price
1	Mango Shake	2	40	60
2	Lasi	34	4567	4576
3	Lays	50	900	1000
4	Lemon	60	900	980

Option 4

The Employee can view the Products same as in the Admin.

Option 5

The Employee can sale the Products and Print Bill.

Option 6

The Employee can check the message forwarded by the Admin.

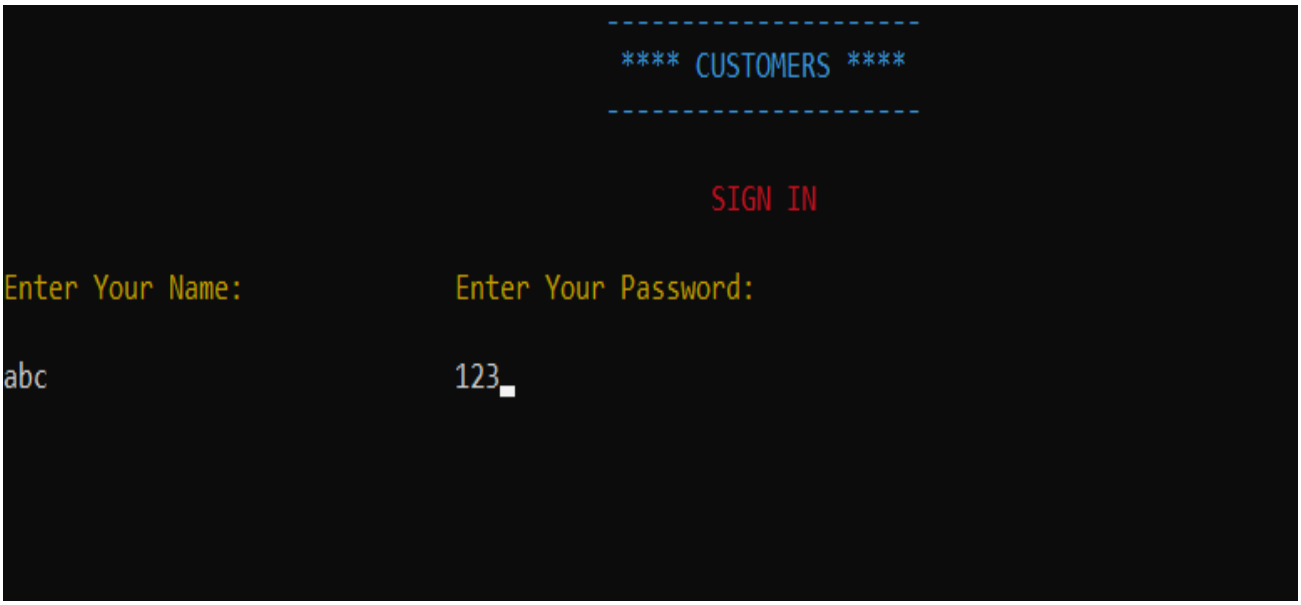
Option 7

The Employee can maintain the stock like if the quantity of items are less than specific value than add this into the buying cart and order it.

Customer Sign Up

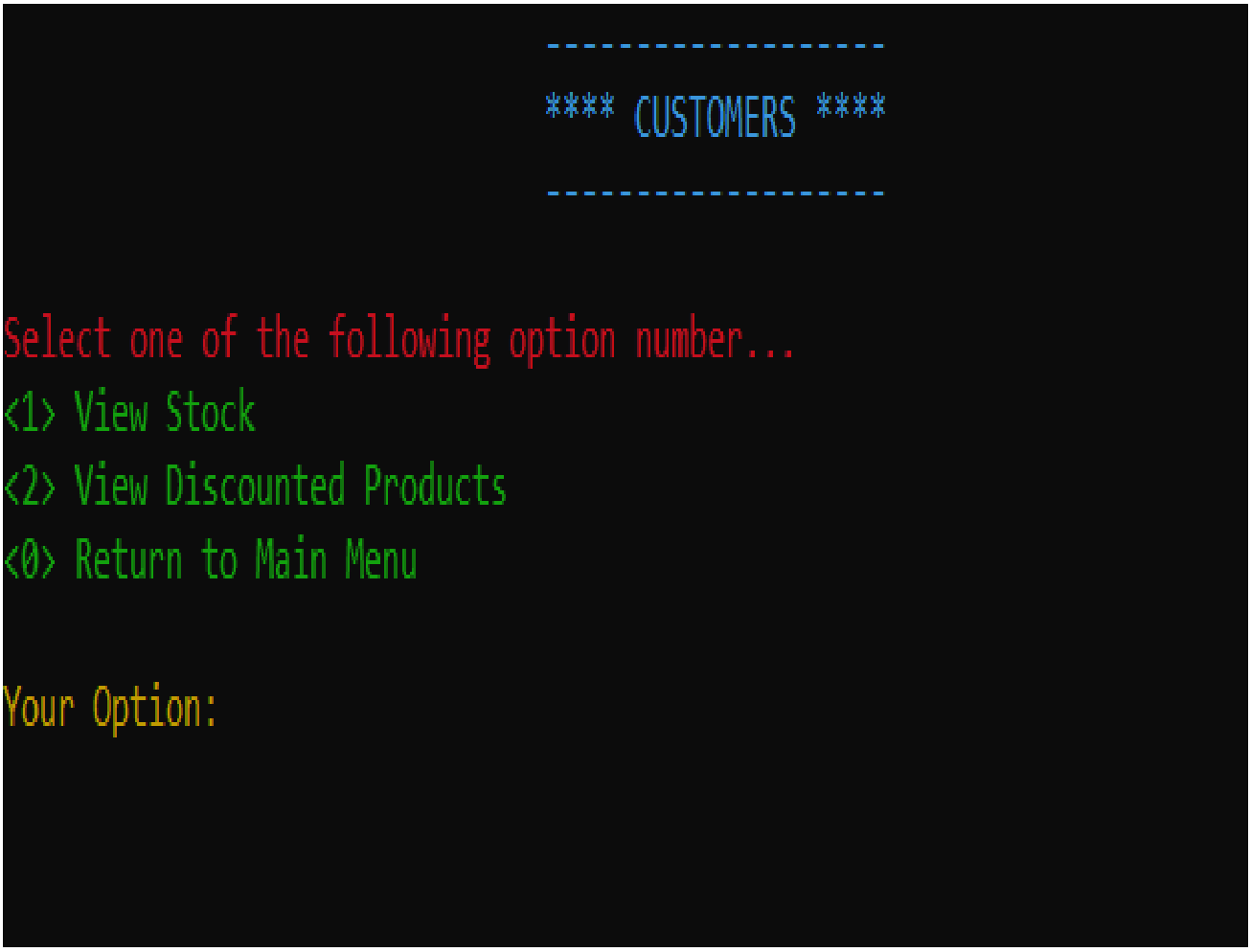
As the option No 4 is selected from the main Login Menu option, the Customer Sign Up menu will pop up.

Customer Sign In



Customer Main Menu

After entering the correct name and password credentials, the main menu for Customers comes up.



Option 1

The Customer can view products and add Products to cart.

Option 2

The Customer can view the discounted Products.

Option 0

The Customers can return to Main Menu.

Functions Prototypes

```
// Proto Types
void clearscreen();
void gotoxy(int x, int y);
HANDLE hConsole = GetStdHandle(STD_OUTPUT_HANDLE); // Colour Function
void Header();
char Entering();

// Functions for Admin
string Admin_Entering();
char Retype_Passwords();
int Admin_Menu();

// Function for Viewing Stock in Sorting Order
void View_Stock_Header();
char Sorting_Order();
int Smallest(float Array[], int Size, int Position);
int Largest(float Array[], int Size, int Position);
void Sorting1(string Product_Names[], float Quantities[], float Purchase_Prices[], float Selling_Prices[], int Size);
void Sorting2(string Product_Names[], float Quantities[], float Purchase_Prices[], float Selling_Prices[], int Size);

// Function for Adding New Employees
int Add_Employees_Header(string ID[], string Passwords[], int Employee_Count);
void Add_Employees_Record_In_Array(string ID[], string Passwords[], string Id, string Password, int Employee_Count);

// Function for Leaving message for Employees
string Leaving_Message();
```

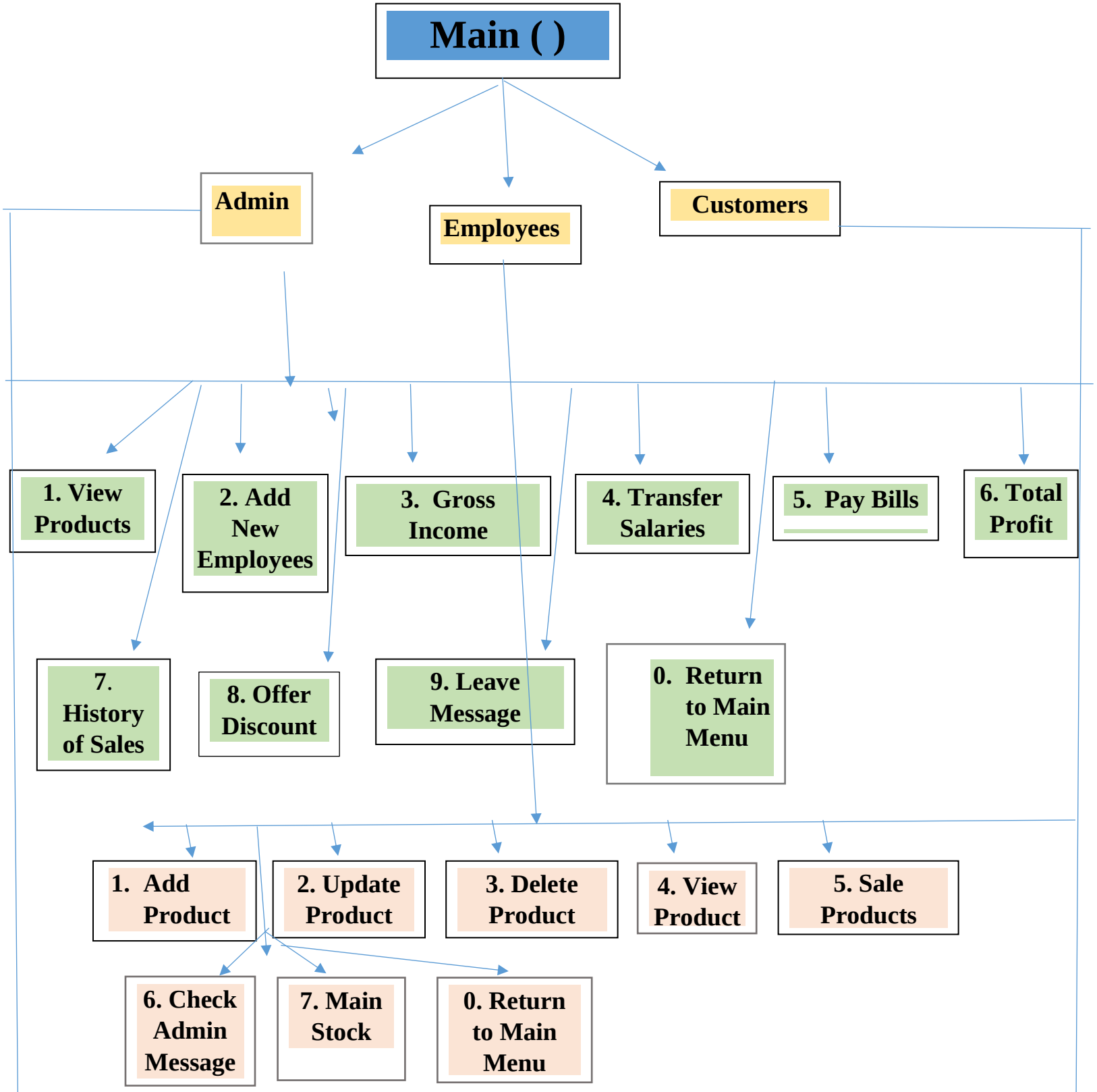
```
// Functions for Employees
bool Employee_Entering(string ID[], string Passwords[], int Employee_Count);
bool Checking(string ID[], string Passwords[], string Id, string Password, int Employee_Count);
int Employee_Menu();

// Functions for Adding Stock
void Display_Stock_Header();
int Add_Stock_Header(string Product_Names[], float Quantities[], float Purchase_Prices[], float Selling_Prices[], int
Product_count);
int Input_Data(string Product_Names[], float Quantities[], float Purchase_Prices[], float Selling_Prices[], int
Product_count);
void Add_Stock_In_Array(string Product_Names[], float Quantities[], float Purchase_Prices[], float Selling_Prices[],
string Name, float Quantity, float Purchase_Price, float Selling_Price, int Product_count);
void Array_Data(string Product_Names[], float Quantities[], float Purchase_Prices[], float Selling_Prices[], int
Array_count);

// Functions for Updating Stock
void Update_Stock_Header();
void Update(string Product_Names[], float Quantities[], float Purchase_Prices[], float Selling_Prices[], int Option);
void Updating_Data(string Product_Names[], float Quantities[], float Purchase_Prices[], float Selling_Prices[], int
Array_count);
```

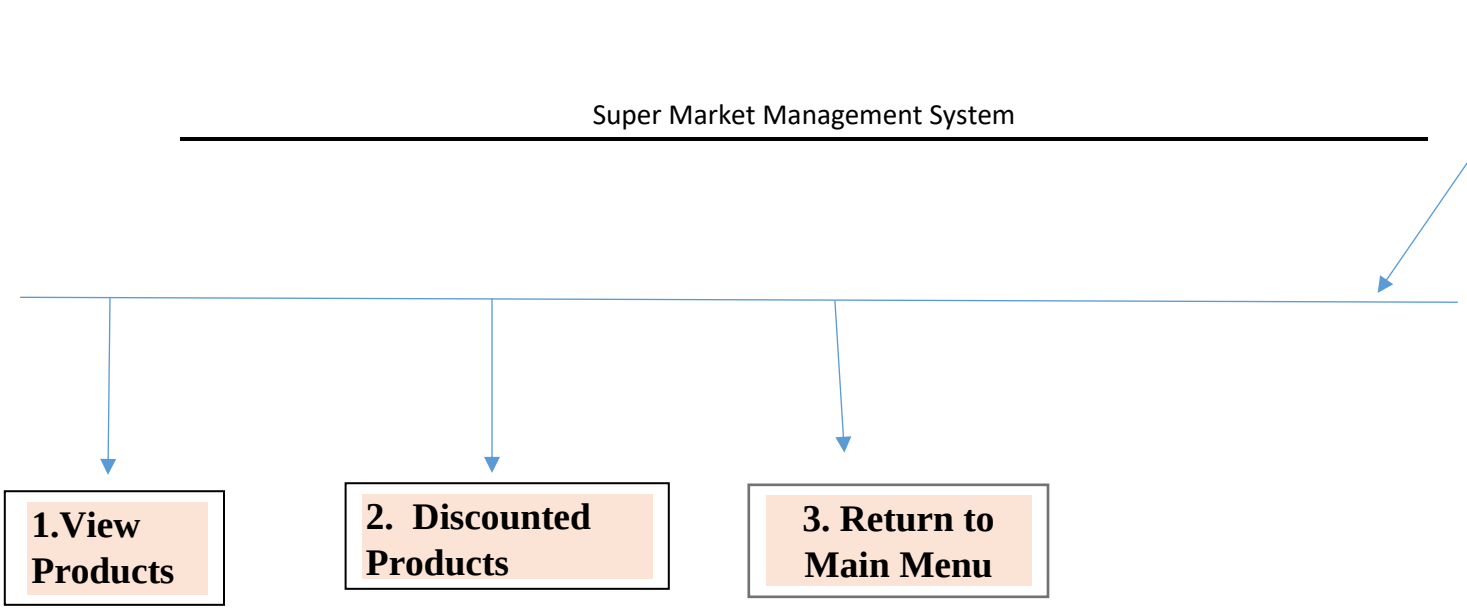
```
// Function for Deleting Stock
void Delete_Stock_Header();
int Delete(string Product_Names[], float Quantities[], float Purchase_Prices[], float Selling_Prices[], int
Array_count, int Option);
int Deleting_Data(string Product_Names[], float Quantities[], float Purchase_Prices[], float Selling_Prices[], int
Array_count);

// Function for Reading Message
void Reading_Message(string Message);

// Function for Customers
int Customer_SignUp(string Customers_Name[], string Customers_Password[], int Customer_Count);
void Add_Customers_Record_In_Array(string Customers_Name[], string Customers_Password[], string Name, string Password,
int Customer_Count);

bool Customer_SignIn(string Customers_Name[], string Customers_Password[], int Customer_Count);
bool Customer_Checking(string Customers_Name[], string Customers_Password[], string Name, string Password, int
Customer_Count);
int Customer_Menu();

// File Handling
void store(string Product_Name[], float Quantity[], float Purchase_Prices[], float Selling_Price[], int Product_count);
void Updatefile(string Product_Name[], float Quantity[], float Purchase_Prices[], float Selling_Price[], int
Array_count);
string parseData(string record, int field);
int load(string Product_Name[], float Quantity[], float Purchase_Prices[], float Selling_Price[]);
```

Data Structures

```
// Local Arrays, Datastructures for Adding Stock
const int Records = 20;
int Product_count = 0;
string Product_Names[Records];
float Quantities[Records];
float Purchase_Prices[Records];
float Selling_Prices[Records];

// Local Arrays, Datastructures for Adding Employees
int Employee_Count = 0;
string ID[Records];
string Passwords[Records];

// Local Arrays, Datastructures for Customers Sign Up
int Customer_Count = 0;
string Customers_Name[Records];
string Customers_Password[Records];

int Array_count = 0;
```

Working Flow





Complete Code:

```
#include <iostream>  //input,output
#include <conio.h>   //clearscreen
#include <stdlib.h>  //getch
#include <windows.h> //gotoxy
#include <fstream>   //filehandling
using namespace std;

// Proto Types
void clearscreen();
void gotoxy(int x, int y);
HANDLE hConsole = GetStdHandle(STD_OUTPUT_HANDLE); // Colour Function
void Header();
char Entering();

// Functions for Admin
string Admin_Entering();
char Retype_Passwords();
int Admin_Menu();

// Function for Viewing Stock in Sorting Order
void View_Stock_Header();
char Sorting_Order();
int Smallest(float Array[], int Size, int Position);
```

```
int Largest(float Array[], int Size, int Position);
void Sorting1(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Size);
void Sorting2(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Size);

// Function for Adding New Employees
int Add_Employees_Header(string ID[], string Passwords[], int
Employee_Count);
void Add_Employees_Record_In_Array(string ID[], string Passwords[],
string Id, string Password, int Employee_Count);

// Function for Leaving message for Employees
string Leaving_Message();

// Functions for Employees
bool Employee_Entering(string ID[], string Passwords[], int
Employee_Count);
bool Checking(string ID[], string Passwords[], string Id, string
Password, int Employee_Count);
int Employee_Menu();

// Functions for Adding Stock
void Display_Stock_Header();
int Add_Stock_Header(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Product_count);
int Input_Data(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Product_count);
void Add_Stock_In_Array(string Product_Names[], float Quantities[],
float Purchase_Prices[], float Selling_Prices[], string Name, float
Quantity, float Purchase_Price, float Selling_Price, int
Product_count);
void Array_Data(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Array_count);

// Functions for Updating Stock
void Update_Stock_Header();
```

```
void Update(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Option);
void Updating_Data(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Array_count);

// Function for Deleting Stock
void Delete_Stock_Header();
int Delete(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Array_count, int
Option);
int Deleting_Data(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Array_count);

// Function for Reading Message
void Reading_Message(string Message);

// Function for Customers
int Customer_SignUp(string Customers_Name[], string
Customers_Password[], int Customer_Count);
void Add_Customers_Record_In_Array(string Customers_Name[], string
Customers_Password[], string Name, string Password, int
Customer_Count);

bool Customer_SignIn(string Customers_Name[], string
Customers_Password[], int Customer_Count);
bool Customer_Checking(string Customers_Name[], string
Customers_Password[], string Name, string Password, int
Customer_Count);
int Customer_Menu();

// File Handling
void store(string Product_Name[], float Quantity[], float
Purchase_Prices[], float Selling_Price[], int Product_count);
void Updatefile(string Product_Name[], float Quantity[], float
Purchase_Prices[], float Selling_Price[], int Array_count);
string parseData(string record, int field);
```

```
int load(string Product_Name[], float Quantity[], float
Purchase_Prices[], float Selling_Price[]);

main()
{
  // Local Arrays, Datastructures for Adding Stock
  const int Records = 20;
  int Product_count = 0;
  string Product_Names[Records];
  float Quantities[Records];
  float Purchase_Prices[Records];
  float Selling_Prices[Records];

  // Local Arrays, Datastructures for Adding Employees
  int Employee_Count = 0;
  string ID[Records];
  string Passwords[Records];

  // Local Arrays, Datastructures for Customers Sign Up
  int Customer_Count = 0;
  string Customers_Name[Records];
  string Customers_Password[Records];

  int Array_count = 0;

  system("CLS");
  while (true) // Main While loop If the Entering Option is wrong than
it will continue to run , Like in Admin Enetring option
  {
    char Main_Option = Entering(); // Checking that who is entering
    if (Main_Option == '1')        // At 1 there is Admin
    {
      while (true) // Incase if user want to return to main menu then
this while loop will break
      {
        system("CLS");
        string Password = Admin_Entering();
```

```
        if (Password == "1234") // if Password match than do this
        {
          system("CLS");
          while (true)
          {
            int Option = 1;

            while (Option != 0)
            {
              Option = Admin_Menu(); // Here admin select what to do
              system("CLS");

              if (Option == 1) // View Stock
              {
                char Option = '0';
                Option = Sorting_Order(); // Ask in which do you want
to see the sorting with quantity based

                system("CLS");
                View_Stock_Header();
                Array_count = load(Product_Names, Quantities,
Purchase_Prices, Selling_Prices);

                if (Option == '1') // Assending
                {
                  Sorting1(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Array_count);
                  Array_Data(Product_Names, Quantities,
Purchase_Prices, Selling_Prices, Array_count);
                }

                else if (Option == '2') // Decesending
                {
                  Sorting2(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Array_count);
```

```
                  Array_Data(Product_Names, Quantities,
Purchase_Prices, Selling_Prices, Array_count);
                }
                Updatefile(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Array_count);
                system("CLS");
              }

              else if (Option == 2) // Add New Employees
              {
                Employee_Count = Add_Employees_Header(ID, Passwords,
Employee_Count);
              }

              else if (Option == 3) // Gross Income
              {
                cout << "Gross Income" << endl;
              }

              else if (Option == 4) // Transfer Salaries
              {
                cout << "Transfer Salaries" << endl;
              }

              else if (Option == 5) // Pay Bills
              {
                cout << "Pay Bills";
              }

              else if (Option == 6) // Total Profit
              {
                cout << "Total Profit";
              }

              else if (Option == 7) // History of Sales
              {
                cout << "History of Sales";
```

```
            }

            else if (Option == 8) // Offer Discount
            {
              cout << "Offer Discount";
            }

            else if (Option == 9) // Leave Message
            {
              string Message = Leaving_Message();
            }

            else if (Option != 0) // Incase of wrong option in Admin
Menu
            {
              SetConsoleTextAttribute(hConsole, 4); // Red
              gotoxy(30, 0);
              cout << "--------------------";
              gotoxy(30, 1);
              cout << "  **** Admin ****  ";
              gotoxy(30, 2);
              cout << "--------------------";

              SetConsoleTextAttribute(hConsole, 7); // White
              gotoxy(0, 4);
              cout << "You Enter a Wrong Number! ";

              getch();
              system("CLS");
            }
          }

          break; // if Option ==  0
        }
        break;                    // if Option ==  0,Return to Main
Menu
      }                           // if Password is correct
```

```
        else if (Password != "1234") // if Admin password is incorrect
then
        {
          char Option = Retype_Passwords();

          if (Option == '1')
          {
            SetConsoleTextAttribute(hConsole, 8); // Gray
            cout << "Press any key to continue...";
            getch();
          }
          else if (Option == '2')
          {
            system("CLS");
            break;
          }
        }
      }

    else if (Main_Option == '2') // At 2 there are Employees
    {
      while (true) // Incase if user want to return to main menu then
this while loop will break
      {
        system("CLS");
        bool check = true;
        check = Employee_Entering(ID, Passwords, Employee_Count);

        if (check == true) // if Id and Passwords are correct then do
this
        {
          system("CLS");
          while (true)
          {
            int Option = 1;
```

```
            while (Option != 0)
            {
              Option = Employee_Menu(); // Here Employee select what
to do
              system("CLS");

              if (Option == 1) // Add_Product
              {
                Product_count = Add_Stock_Header(Product_Names,
Quantities, Purchase_Prices, Selling_Prices, Product_count);
                store(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Product_count);
                if (Product_count > Records) // if Products which is
added is greater than Records than this
                {
                  cout << "No more Space! " << endl;
                  system("CLS");
                }
              }

              else if (Option == 2) // Update Stock
              {
                Update_Stock_Header();
                Array_count = load(Product_Names, Quantities,
Purchase_Prices, Selling_Prices);
                Updating_Data(Product_Names, Quantities,
Purchase_Prices, Selling_Prices, Array_count);
                Updatefile(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Array_count);
              }

              else if (Option == 3) // Delete Stock
              {
                Delete_Stock_Header();
                Array_count = load(Product_Names, Quantities,
Purchase_Prices, Selling_Prices);
```

```
                Array_count = Deleting_Data(Product_Names, Quantities,
Purchase_Prices, Selling_Prices, Array_count);
                Updatefile(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Array_count);
              }

              else if (Option == 4) // View Stock
              {
                char Option = '0';
                Option = Sorting_Order(); // Ask in which do you want
to see the sorting with quantity based

                system("CLS");
                View_Stock_Header();
                Array_count = load(Product_Names, Quantities,
Purchase_Prices, Selling_Prices);

                if (Option == '1') // Assending
                {
                  Sorting1(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Array_count);
                  Array_Data(Product_Names, Quantities,
Purchase_Prices, Selling_Prices, Array_count);
                }

                else if (Option == '2') // Decesending
                {
                  Sorting2(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Array_count);
                  Array_Data(Product_Names, Quantities,
Purchase_Prices, Selling_Prices, Array_count);
                }
                Updatefile(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Array_count);
                system("CLS");
              }
```

```
            else if (Option == 6) // Reading Message
            {
              string Message = Leaving_Message();
              Reading_Message(Message);
            }

            else if (Option != 0) // Incase of wrong option in
Employee Menu
            {
              SetConsoleTextAttribute(hConsole, 4); // Red
              gotoxy(30, 0);
              cout << "-------------------";
              gotoxy(30, 1);
              cout << "**** Employees ****";
              gotoxy(30, 2);
              cout << "-------------------";

              SetConsoleTextAttribute(hConsole, 7); // White
              gotoxy(0, 4);
              cout << "You Enter a Wrong Number! ";

              getch();
              system("CLS");
            }
          }

          break; // if Option ==  0
        }
        break; // if Option ==  0,Return to Main Menu
      }

      else if (check != true) // if Id and Passwords are incorrect
then do this
      {
        char Option = Retype_Passwords();

        if (Option == '1')
```

```
          {
            SetConsoleTextAttribute(hConsole, 8); // Gray
            cout << "Press any key to continue...";
            getch();
          }
          else if (Option == '2')
          {
            system("CLS");
            break;
          }
        }
      }
    }

    else if (Main_Option == '3') // At 3 there is Customer
    {
      while (true) // Incase if user want to return to main menu then
this while loop will break
      {
        system("CLS");
        bool check = true;
        check = Customer_SignIn(Customers_Name, Customers_Password,
Customer_Count);

        if (check == true) // if Id and Passwords are correct then do
this
        {
          system("CLS");
          while (true)
          {
            int Option = 1;

            while (Option != 0)
            {
              Option = Customer_Menu(); // Here Customers can select
what to do
              system("CLS");
```

```
            if (Option == 1) // View Stock
            {
              char Option = '0';
              Option = Sorting_Order(); // Ask in which do you want
to see the sorting with quantity based

              system("CLS");
              View_Stock_Header();
              Array_count = load(Product_Names, Quantities,
Purchase_Prices, Selling_Prices);

              if (Option == '1') // Assending
              {
                Sorting1(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Array_count);
                Array_Data(Product_Names, Quantities,
Purchase_Prices, Selling_Prices, Array_count);
              }

              else if (Option == '2') // Decesending
              {
                Sorting2(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Array_count);
                Array_Data(Product_Names, Quantities,
Purchase_Prices, Selling_Prices, Array_count);
              }
              Updatefile(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Array_count);
              system("CLS");
            }

            else if (Option != 0) // Incase of wrong option in
Customers Menu
            {
              SetConsoleTextAttribute(hConsole, 4); // Red
              gotoxy(30, 0);
```

```
                cout << "--------------------";
                gotoxy(30, 1);
                cout << "**** CUSTOMERS ****";
                gotoxy(30, 2);
                cout << "--------------------";

                SetConsoleTextAttribute(hConsole, 7); // White
                gotoxy(0, 4);
                cout << "You Enter a Wrong Number! ";

                getch();
                system("CLS");
              }
            }

            break; // if Option ==  0
          }
          break; // if Option ==  0,Return to Main Menu
        }

        else if (check != true) // if Id and Passwords are incorrect
then do this
        {
          char Option = Retype_Passwords();

          if (Option == '1')
          {
            SetConsoleTextAttribute(hConsole, 8); // Gray
            cout << "Press any key to continue...";
            getch();
          }
          else if (Option == '2')
          {
            system("CLS");
            break;
          }
        }
```

```
      }
    }

    else if (Main_Option == '4') // At 4 Customers can sign up
    {
      Customer_Count = Customer_SignUp(Customers_Name,
Customers_Password, Customer_Count);
    }

    else if (Main_Option == '5') // At 5 Exit
    {
      system("CLS");
      Header();
      cout << "\n";
      SetConsoleTextAttribute(hConsole, 7);
      cout << "Thanks for using this Applicatin! " << endl;
      break;
    } // Main Exit from Function

    else
    {
      system("CLS");
      Header();
      cout << "\n";
      SetConsoleTextAttribute(hConsole, 4); // Red
      cout << "You Enter a Wrong Number! " << endl;
      SetConsoleTextAttribute(hConsole, 7); // White
      clearscreen();
    } // Incase of wrong option in Main Options
  }   // End Main While
} // End Main

// Function Defination

void clearscreen() // Function for clear screen
{
  cout << "Press any key to continue...";
```

```
  getch();
  system("CLS");
}

void gotoxy(int x, int y) // function to use for going on specfic
Position on console
{
  COORD coordinates; // coordinates is declared as COORD
  coordinates.X = x; // defining x-axis
  coordinates.Y = y; // defining  y-axis
  SetConsoleCursorPosition(GetStdHandle(STD_OUTPUT_HANDLE),
coordinates);
}

void Header() // Header on Start
{
  SetConsoleTextAttribute(hConsole, 6); // yellow
  gotoxy(50, 0);
  cout << "-------------------------------------------------------
";
  gotoxy(50, 1);
  cout << "!              Simple Shop Management
System              !";
  gotoxy(50, 2);
  cout << "-------------------------------------------------------
";

  gotoxy(50, 4);
  cout << "              *********************************";
  gotoxy(50, 5);
  cout << "              !           MAIN MENU          !";
  gotoxy(50, 6);
  cout << "              *********************************";
  cout << endl;
}

char Entering() // Who Is Entering
```

```
{
  Header();
  SetConsoleTextAttribute(hConsole, 2); // Green
  cout << "Select one of the following option number..." << endl;
  cout << endl;
  cout << "1. Admin" << endl;
  cout << "2. Employees" << endl;
  cout << "3. Customers SignIN" << endl;
  cout << "4. Customers SignUp" << endl;
  cout << "5. Exit" << endl;
  cout << endl;

  char Op;
  SetConsoleTextAttribute(hConsole, 4); // Red
  cout << "Your Option: ";
  SetConsoleTextAttribute(hConsole, 7); // White
  cin >> Op;

  return Op;
}

string Admin_Entering() // Admin password enetring headrer and return
Password for checking
{
  SetConsoleTextAttribute(hConsole, 4); // Red
  gotoxy(30, 0);
  cout << "--------------------";
  gotoxy(30, 1);
  cout << "  **** Admin ****  ";
  gotoxy(30, 2);
  cout << "--------------------";

  string Password;
  SetConsoleTextAttribute(hConsole, 6); // Yellow
  gotoxy(0, 4);
  cout << "Admin Enter Password: ";
  SetConsoleTextAttribute(hConsole, 7); // white
```

```
  cin >> Password;

  return Password;
}

char Retype_Passwords() // Fuunction if the Password or Ids entered is
wrong
{
  cout << endl;
  SetConsoleTextAttribute(hConsole, 4); // Red
  cout << "Wrong Input!" << endl;
  cout << endl;

  SetConsoleTextAttribute(hConsole, 2); // Green
  cout << "1. Retype..." << endl;
  cout << "2. Return to Main Menu..." << endl;

  SetConsoleTextAttribute(hConsole, 3); // Aqua
  cout << endl;
  cout << "Enter your Option: ";

  char Opt;
  SetConsoleTextAttribute(hConsole, 7); // White
  cin >> Opt;

  return Opt;
}

int Admin_Menu() // Menu Function for Admin , Select a option what to
do and to return to main
{
  SetConsoleTextAttribute(hConsole, 4); // Red
  gotoxy(30, 0);
  cout << "--------------------";
  gotoxy(30, 1);
  cout << "  **** ADMIN ****  ";
  gotoxy(30, 2);
```

```
  cout << "--------------------";

  SetConsoleTextAttribute(hConsole, 6); // Yellow
  gotoxy(0, 4);
  cout << "Select one of the following option number..." << endl;

  SetConsoleTextAttribute(hConsole, 2); // Green
  cout << "<1> View Stock " << endl;
  cout << "<2> Add New Employees " << endl;
  cout << "<3> Gross Income " << endl;
  cout << "<4> Transfer Salaries " << endl;
  cout << "<5> Pay Bills " << endl;
  cout << "<6> Total Profit " << endl;
  cout << "<7> History of Sales " << endl;
  cout << "<8> Offer Discount " << endl;
  cout << "<9> Leave Message" << endl;
  cout << "<0> Return to Starting Menu" << endl;

  SetConsoleTextAttribute(hConsole, 3); // Aqua
  gotoxy(0, 16);
  cout << "Your Option: ";

  int Opt;
  SetConsoleTextAttribute(hConsole, 7); // White
  cin >> Opt;

  return Opt;
}

void View_Stock_Header() // Function Declaration For View Stock Header
{
  SetConsoleTextAttribute(hConsole, 4); // Red
  gotoxy(40, 0);
  cout << "--------------------";
  gotoxy(40, 1);
  cout << "  **** Admin ****  ";
  gotoxy(40, 2);
```

```
  cout << "--------------------";
  SetConsoleTextAttribute(hConsole, 3); // Aqua
  gotoxy(40, 4);
  cout << "     VIEW STOCK";

  Display_Stock_Header();
}

char Sorting_Order() // Function to ask for which order user wanted to
see the Products
{
  SetConsoleTextAttribute(hConsole, 4);
  gotoxy(30, 0);
  cout << "--------------------" << endl;
  gotoxy(30, 1);
  cout << "  **** Admin ****  " << endl;
  gotoxy(30, 2);
  cout << "--------------------" << endl;
  SetConsoleTextAttribute(hConsole, 3);
  gotoxy(30, 4);
  cout << "     VIEW STOCK" << endl;

  char Option = 0;
  gotoxy(0, 6);
  SetConsoleTextAttribute(hConsole, 6);
  cout << "You can View stock in these Order...";
  gotoxy(0, 7);
  SetConsoleTextAttribute(hConsole, 7);
  cout << "1. Assending Order " << endl;
  cout << "2. Desending Order " << endl;

  gotoxy(0, 10);
  SetConsoleTextAttribute(hConsole, 3);
  cout << "Your Option: ";
  SetConsoleTextAttribute(hConsole, 7);
  cin >> Option;
```

```
  return Option;
}

int Smallest(float Array[], int Size, int Position) // find the Index
where there is smallest Number in the Array for Asending order sorting
{
  int index = Position;
  int temp = Array[Position];

  for (int x = Position; x < Size; x++)
  {
    if (temp > Array[x])
    {
      temp = Array[x];
      index = x;
    }
  }

  return index;
}

int Largest(float Array[], int Size, int Position) // find the Index
where there is Largest Number in the Array for Descending order
sorting
{
  int index = Position;
  int temp = Array[Position];

  for (int x = Position; x < Size; x++)
  {
    if (temp < Array[x])
    {
      temp = Array[x];
      index = x;
    }
  }
```

```
  return index;
}

void Sorting1(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Size)
{
  for (int x = 0; x < Size; x++)
  {
    int Ind = Smallest(Quantities, Size, x);

    int temp = Quantities[x];
    Quantities[x] = Quantities[Ind];
    Quantities[Ind] = temp;

    string temp1 = Product_Names[x];
    Product_Names[x] = Product_Names[Ind];
    Product_Names[Ind] = temp1;

    int temp2 = Purchase_Prices[x];
    Purchase_Prices[x] = Purchase_Prices[Ind];
    Purchase_Prices[Ind] = temp2;

    int temp3 = Selling_Prices[x];
    Selling_Prices[x] = Selling_Prices[Ind];
    Selling_Prices[Ind] = temp3;
  }
}

void Sorting2(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Size)
{
  for (int x = 0; x < Size; x++)
  {
    int Ind = Largest(Quantities, Size, x);

    int temp = Quantities[x];
    Quantities[x] = Quantities[Ind];
```

```
    Quantities[Ind] = temp;

    string temp1 = Product_Names[x];
    Product_Names[x] = Product_Names[Ind];
    Product_Names[Ind] = temp1;

    int temp2 = Purchase_Prices[x];
    Purchase_Prices[x] = Purchase_Prices[Ind];
    Purchase_Prices[Ind] = temp2;

    int temp3 = Selling_Prices[x];
    Selling_Prices[x] = Selling_Prices[Ind];
    Selling_Prices[Ind] = temp3;
  }
}

int Add_Employees_Header(string ID[], string Passwords[], int
Employee_Count) // Functon for Adding Employees
{
  SetConsoleTextAttribute(hConsole, 4); // Red
  gotoxy(40, 0);
  cout << "------------------";
  gotoxy(40, 1);
  cout << "  **** Admin **** ";
  gotoxy(40, 2);
  cout << "------------------";
  SetConsoleTextAttribute(hConsole, 3); // Aqua
  gotoxy(40, 4);
  cout << " ADD NEW EMPLOYEES";

  string Id, Password;

  SetConsoleTextAttribute(hConsole, 6);
  gotoxy(0, 7);
  cout << "Enter the ID of the Employee: ";
  gotoxy(0, 9);
  SetConsoleTextAttribute(hConsole, 7);
```

```
  cin.ignore();
  getline(cin, Id);

  gotoxy(45, 7);
  SetConsoleTextAttribute(hConsole, 6);
  cout << "Assign Password: ";
  gotoxy(45, 9);
  SetConsoleTextAttribute(hConsole, 7);
  cin >> Password;

  Add_Employees_Record_In_Array(ID, Passwords, Id, Password,
Employee_Count);
  Employee_Count++;

  system("CLS");
  return Employee_Count;
}

void Add_Employees_Record_In_Array(string ID[], string Passwords[],
string Id, string Password, int Employee_Count)
{
  ID[Employee_Count] = Id;
  Passwords[Employee_Count] = Password; // Function For Adding
Employees Data from variable to Array
}

string Leaving_Message() // Function Header for Leaving Message
{
  SetConsoleTextAttribute(hConsole, 4); // Red
  gotoxy(40, 0);
  cout << "------------------";
  gotoxy(40, 1);
  cout << "  **** Admin **** ";
  gotoxy(40, 2);
  cout << "------------------";
  SetConsoleTextAttribute(hConsole, 3); // Aqua
  gotoxy(40, 4);
```

```
  cout << "  Leave Messages";

  string Message;
  SetConsoleTextAttribute(hConsole, 6);
  gotoxy(0, 7);
  cout << "Write the Message Here: ";
  gotoxy(24, 9);
  SetConsoleTextAttribute(hConsole, 7);
  cin.ignore();

  getline(cin, Message);
  system("CLS");

  return Message;
}

bool Employee_Entering(string ID[], string Passwords[], int
Employee_Count) // Employee entering Assigned Id and Password
{
  SetConsoleTextAttribute(hConsole, 4); // Red
  gotoxy(30, 0);
  cout << "--------------------";
  gotoxy(30, 1);
  cout << "**** Employees ****";
  gotoxy(30, 2);
  cout << "--------------------";

  string Id, Password;

  SetConsoleTextAttribute(hConsole, 6); // Yellow
  gotoxy(0, 4);
  cout << "Enter Your Id: ";
  SetConsoleTextAttribute(hConsole, 7); // white
  gotoxy(0, 6);
  cin.ignore();
  getline(cin, Id);
```

```
  SetConsoleTextAttribute(hConsole, 6); // Yellow
  gotoxy(30, 4);
  cout << "Enter Your Password: ";
  SetConsoleTextAttribute(hConsole, 7); // white
  gotoxy(30, 6);
  getline(cin, Password);

  bool flag = true;
  flag = Checking(ID, Passwords, Id, Password, Employee_Count);
  return flag;
}

bool Checking(string ID[], string Passwords[], string Id, string
Password, int Employee_Count)
{
  for (int x = 0; x < Employee_Count; x++)
  {
    if (ID[x] == Id && Passwords[x] == Password)
    {
      return true;
    }
  }
  return false;
}

int Employee_Menu() // Menu Function for Employee , Select a option
what to do and to return to main
{
  SetConsoleTextAttribute(hConsole, 6); // Red
  gotoxy(30, 0);
  cout << "--------------------";
  gotoxy(30, 1);
  cout << "**** Employees ****";
  gotoxy(30, 2);
  cout << "--------------------";

  SetConsoleTextAttribute(hConsole, 4); // Yellow
```

```
  gotoxy(0, 4);
  cout << "Select one of the following option number..." << endl;

  SetConsoleTextAttribute(hConsole, 2); // Green
  cout << "<1> Add Stock " << endl;
  cout << "<2> Update Stock " << endl;
  cout << "<3> Delete Stock " << endl;
  cout << "<4> View Stock " << endl;
  cout << "<5> Sale Products " << endl;
  cout << "<6> Check Admin Message " << endl;
  cout << "<7> View and Maintain Stock " << endl;
  cout << "<0> Return to Main Menu" << endl;

  SetConsoleTextAttribute(hConsole, 3); // Aqua
  gotoxy(0, 14);
  cout << "Your Option: ";

  int Opt;
  SetConsoleTextAttribute(hConsole, 7); // White
  cin >> Opt;

  return Opt;
}

void Display_Stock_Header() // function for just display
{
  SetConsoleTextAttribute(hConsole, 6); // Yellow
  gotoxy(0, 7);
  cout << "Sr.No";
  gotoxy(20, 7);
  cout << "Product_Name";
  gotoxy(47, 7);
  cout << "Quantity";
  gotoxy(70, 7);
  cout << "Purchasing_Price";
  gotoxy(101, 7);
  cout << "Selling_Price";
```

```
  SetConsoleTextAttribute(hConsole, 7); // White
}

int Add_Stock_Header(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Product_count)
{
  SetConsoleTextAttribute(hConsole, 4);
  gotoxy(50, 0);
  cout << "--------------------" << endl;
  gotoxy(50, 1);
  cout << " **** EMPLOYEE **** " << endl;
  gotoxy(50, 2);
  cout << "--------------------" << endl;
  SetConsoleTextAttribute(hConsole, 3);
  gotoxy(50, 4);
  cout << "     ADD STOCK" << endl;

  int Count = Input_Data(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Product_count);
  system("CLS");

  return Count;
}

int Input_Data(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Product_count) //
Function for taking Input
{
  string Name;
  float Quantity, Purchase_Price, Selling_Price;

  SetConsoleTextAttribute(hConsole, 6);
  gotoxy(0, 7);
  cout << "Name of Products";
  gotoxy(0, 9);
  SetConsoleTextAttribute(hConsole, 7);
```

```
  cin.ignore();
  getline(cin, Name);

  gotoxy(31, 7);
  SetConsoleTextAttribute(hConsole, 6);
  cout << "Quantity of Products";
  gotoxy(31, 9);
  SetConsoleTextAttribute(hConsole, 7);
  cin >> Quantity;

  gotoxy(66, 7);
  SetConsoleTextAttribute(hConsole, 6);
  cout << "Purchasing price";
  gotoxy(66, 9);
  SetConsoleTextAttribute(hConsole, 7);
  cin >> Purchase_Price;

  gotoxy(97, 7);
  SetConsoleTextAttribute(hConsole, 6);
  cout << "Selling Price";
  gotoxy(97, 9);
  SetConsoleTextAttribute(hConsole, 7);
  cin >> Selling_Price;

  Add_Stock_In_Array(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Name, Quantity, Purchase_Price, Selling_Price,
Product_count);
  Product_count++;

  return Product_count;
}

void Add_Stock_In_Array(string Product_Names[], float Quantities[],
float Purchase_Prices[], float Selling_Prices[], string Name, float
Quantity, float Purchase_Price, float Selling_Price, int
Product_count)
{
```

```
  Product_Names[Product_count] = Name;
  Quantities[Product_count] = Quantity; // Function For Adding Stock
from variable to Array
  Purchase_Prices[Product_count] = Purchase_Price;
  Selling_Prices[Product_count] = Selling_Price;
}

void Array_Data(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Array_count) //
Displaying the Data of the Array
{
  int y = 9;
  for (int x = 0; x < Array_count; x++)
  {
    gotoxy(0, y);
    cout << x + 1;
    gotoxy(20, y);
    cout << Product_Names[x];
    gotoxy(47, y);
    cout << Quantities[x];
    gotoxy(70, y);
    cout << Purchase_Prices[x];
    gotoxy(101, y);
    cout << Selling_Prices[x];
    y++;
  }
  getch();
  system("CLS");
}

void Update_Stock_Header() // Function Declaration For Updating Stock
Header
{
  SetConsoleTextAttribute(hConsole, 4); // Red
  gotoxy(42, 0);
  cout << "--------------------";
  gotoxy(42, 1);
```

```
  cout << " **** EMPLOYEE **** ";
  gotoxy(42, 2);
  cout << "--------------------";
  SetConsoleTextAttribute(hConsole, 3); // Aqua
  gotoxy(42, 4);
  cout << "   UPDATE STOCK";

  Display_Stock_Header();
}

void Update(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Option) // Function for
Update the Stock
{
  string Name;
  float Quantity, Purchase_Price, Selling_Price;

  cout << endl;
  SetConsoleTextAttribute(hConsole, 6);
  cout << "Name of the Product : ";
  SetConsoleTextAttribute(hConsole, 7);
  cin.ignore();
  getline(cin, Name);

  SetConsoleTextAttribute(hConsole, 6);
  cout << "Quantity of Product : ";
  SetConsoleTextAttribute(hConsole, 7);
  cin >> Quantity;

  SetConsoleTextAttribute(hConsole, 6);
  cout << "Purchasing price : ";
  SetConsoleTextAttribute(hConsole, 7);
  cin >> Purchase_Price;

  SetConsoleTextAttribute(hConsole, 6);
  cout << "Selling Price : ";
  SetConsoleTextAttribute(hConsole, 7);
```

```
  cin >> Selling_Price;

  Product_Names[Option - 1] = Name;
  Quantities[Option - 1] = Quantity;
  Purchase_Prices[Option - 1] = Purchase_Price;
  Selling_Prices[Option - 1] = Selling_Price;
}

void Updating_Data(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Array_count) // Array
before updating , Displaying the Array
{
  int y = 9;
  for (int x = 0; x < Array_count; x++)
  {
    gotoxy(0, y);
    cout << x + 1;
    gotoxy(20, y);
    cout << Product_Names[x];
    gotoxy(47, y);
    cout << Quantities[x];
    gotoxy(70, y);
    cout << Purchase_Prices[x];
    gotoxy(101, y);
    cout << Selling_Prices[x];
    y++;
  }

  int Option = 1;
  gotoxy(0, y + 1);
  SetConsoleTextAttribute(hConsole, 4); // Red
  cout << "Enter your Option: ";
  SetConsoleTextAttribute(hConsole, 7); // White
  cin >> Option;

  if (Option > 0)
  {
```

```
    Update(Product_Names, Quantities, Purchase_Prices, Selling_Prices,
Option);

    gotoxy(40, y + 8);
    SetConsoleTextAttribute(hConsole, 4); // Red
    cout << "Updated Successfully!";

    getch();
  }
  system("CLS");
}

void Delete_Stock_Header() // Function Declaration For Deleting Stock
Header
{
  SetConsoleTextAttribute(hConsole, 4); // Red
  gotoxy(42, 0);
  cout << "--------------------";
  gotoxy(42, 1);
  cout << " **** EMPLOYEE **** ";
  gotoxy(42, 2);
  cout << "--------------------";
  SetConsoleTextAttribute(hConsole, 3); // Aqua
  gotoxy(42, 4);
  cout << "   DELETE STOCK";

  Display_Stock_Header();
}

int Delete(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Array_count, int
Option) // Actual Function for Deleting the Data from the Array
{
  if (Array_count > 0)
  {
    for (int x = Option - 1; x < Array_count - 1; x++)
    {
```

```
      Product_Names[x] = Product_Names[x + 1];
      Quantities[x] = Quantities[x + 1];
      Purchase_Prices[x] = Purchase_Prices[x + 1];
      Selling_Prices[x] = Selling_Prices[x + 1];
    }

    Array_count--; // Because after Deletition , Size of the Array
will be decrease
  }
  return Array_count;
}

int Deleting_Data(string Product_Names[], float Quantities[], float
Purchase_Prices[], float Selling_Prices[], int Array_count) // Array
before Deleting , Displaying the Array
{
  int y = 9;
  for (int x = 0; x < Array_count; x++)
  {
    gotoxy(0, y);
    cout << x + 1;
    gotoxy(20, y);
    cout << Product_Names[x];
    gotoxy(47, y);
    cout << Quantities[x];
    gotoxy(70, y);
    cout << Purchase_Prices[x];
    gotoxy(101, y);
    cout << Selling_Prices[x];
    y++;
  }

  int Option;
  gotoxy(0, y + 1);
  SetConsoleTextAttribute(hConsole, 4); // Red
  cout << "Enter your Option: ";
  SetConsoleTextAttribute(hConsole, 7); // White
```

```
  cin >> Option;

  if (Option > 0)
  {
    Array_count = Delete(Product_Names, Quantities, Purchase_Prices,
Selling_Prices, Array_count, Option);

    gotoxy(40, y + 3);
    SetConsoleTextAttribute(hConsole, 4); // Red
    cout << "Dleted Successfuly!";

    getch();
  }

  system("CLS");

  return Array_count;
}

void Reading_Message(string Message) // Function Header for Reading
Message
{
  SetConsoleTextAttribute(hConsole, 3); // Aqua
  gotoxy(40, 0);
  cout << "--------------------";
  gotoxy(40, 1);
  cout << " **** EMPLOYEE **** ";
  gotoxy(40, 2);
  cout << "--------------------";
  SetConsoleTextAttribute(hConsole, 4); // Red
  gotoxy(40, 4);
  cout << "  Read Messages";

  cout << Message;
  getch();
  system("CLS");
}
```

```
int Customer_SignUp(string Customers_Name[], string
Customers_Password[], int Customer_Count) // Function for Customers
Signup
{
  system("CLS");
  SetConsoleTextAttribute(hConsole, 3); // Aqua
  gotoxy(40, 0);
  cout << "----------------------";
  gotoxy(40, 1);
  cout << " **** CUSTOMERS **** ";
  gotoxy(40, 2);
  cout << "----------------------";
  SetConsoleTextAttribute(hConsole, 4); // Red
  gotoxy(40, 4);
  cout << "       SIGN UP";

  string Name, Password, Retype_Password;

  SetConsoleTextAttribute(hConsole, 6);
  gotoxy(0, 7);
  cout << "Enter Your Name:";
  gotoxy(16, 8);
  SetConsoleTextAttribute(hConsole, 7);
  cin.ignore();
  getline(cin, Name);

  gotoxy(0, 10);
  SetConsoleTextAttribute(hConsole, 6);
  cout << "Enter the Password:";
  gotoxy(19, 11);
  SetConsoleTextAttribute(hConsole, 7);
  cin >> Password;

  gotoxy(0, 13);
  SetConsoleTextAttribute(hConsole, 6);
  cout << "Retype the Password:";
```

```
  gotoxy(20, 14);
  SetConsoleTextAttribute(hConsole, 7);
  cin >> Retype_Password;

  if (Password == Retype_Password)
  {
    Add_Customers_Record_In_Array(Customers_Name, Customers_Password,
Name, Password, Customer_Count);
    Customer_Count++;

    gotoxy(40, 16);
    SetConsoleTextAttribute(hConsole, 4); // Red
    cout << "SignUp Successfully!";
    getch();
  }
  // else // incase if retype Password is incorrect then do this
  // {
  // }
  system("CLS");
  return Customer_Count;
}

void Add_Customers_Record_In_Array(string Customers_Name[], string
Customers_Password[], string Name, string Password, int
Customer_Count)
{
  Customers_Name[Customer_Count] = Name;
  Customers_Password[Customer_Count] = Password; // Function For
Adding Employees Data from variable to Array
}

bool Customer_SignIn(string Customers_Name[], string
Customers_Password[], int Customer_Count) // for customers SignIn
{
  system("CLS");
  SetConsoleTextAttribute(hConsole, 3); // Aqua
  gotoxy(40, 0);
```

```
  cout << "---------------------";
  gotoxy(40, 1);
  cout << " **** CUSTOMERS **** ";
  gotoxy(40, 2);
  cout << "---------------------";
  SetConsoleTextAttribute(hConsole, 4); // Red
  gotoxy(40, 4);
  cout << "       SIGN IN";

  string Name, Password;

  SetConsoleTextAttribute(hConsole, 6); // Yellow
  gotoxy(0, 6);
  cout << "Enter Your Name: ";
  SetConsoleTextAttribute(hConsole, 7); // white
  gotoxy(0, 8);
  cin.ignore();
  getline(cin, Name);

  SetConsoleTextAttribute(hConsole, 6); // Yellow
  gotoxy(30, 6);
  cout << "Enter Your Password: ";
  SetConsoleTextAttribute(hConsole, 7); // white
  gotoxy(30, 8);
  getline(cin, Password);

  bool flag = true;
  flag = Checking(Customers_Name, Customers_Password, Name, Password,
Customer_Count);
  return flag;
}

bool Customer_Checking(string Customers_Name[], string
Customers_Password[], string Name, string Password, int
Customer_Count)
{
  for (int x = 0; x < Customer_Count; x++)
```

```
  {
    if (Customers_Name[x] == Name && Customers_Password[x] ==
Password)
    {
      return true;
    }
  }
  return false;
}

int Customer_Menu() // Menu Function for Customer , Select a option
what to do and to return to main
{
  SetConsoleTextAttribute(hConsole, 3); // Aqua
  gotoxy(30, 0);
  cout << "--------------------";
  gotoxy(30, 1);
  cout << "**** CUSTOMERS ****";
  gotoxy(30, 2);
  cout << "--------------------";

  SetConsoleTextAttribute(hConsole, 4); // Red
  gotoxy(0, 4);
  cout << "Select one of the following option number..." << endl;

  SetConsoleTextAttribute(hConsole, 2); // Green
  cout << "<1> View Stock " << endl;
  cout << "<2> View Discounted Products " << endl;
  cout << "<0> Return to Main Menu" << endl;

  SetConsoleTextAttribute(hConsole, 6); // Yellow
  gotoxy(0, 9);
  cout << "Your Option: ";

  int Opt;
  SetConsoleTextAttribute(hConsole, 7); // White
  cin >> Opt;
```

```
  return Opt;
}

void store(string Product_Name[], float Quantity[], float
Purchase_Prices[], float Selling_Price[], int Product_count)
{
  fstream myFile;
  myFile.open("Stock.txt", ios::app);
  for (int x = Product_count - 1; x < Product_count; x++)
  {
    myFile << Product_Name[x] << "," << Quantity[x] << "," <<
Purchase_Prices[x] << "," << Selling_Price[x] << endl;
  }
  myFile.close();
}

void Updatefile(string Product_Name[], float Quantity[], float
Purchase_Prices[], float Selling_Price[], int Product_count)
{
  fstream myFile;
  myFile.open("Stock.txt", ios::out);
  for (int x = 0; x < Product_count; x++)
  {
    myFile << Product_Name[x] << "," << Quantity[x] << "," <<
Purchase_Prices[x] << "," << Selling_Price[x] << endl;
  }
  myFile.close();
}

string parseData(string record, int field)
{
  int comma = 1;
  string item;
  for (int x = 0; x < record.length(); x++)
  {
    if (record[x] == ',')
```

```
    {
      comma = comma + 1;
    }
    else if (comma == field)
    {
      item = item + record[x];
    }
  }
  return item;
}

int load(string Product_Name[], float Quantity[], float
Purchase_Prices[], float Selling_Price[])
{
  fstream f;
  string record;
  int idx = 0;
  f.open("Stock.txt", ios::in);
  while (!(f.eof()))
  {
    getline(f, record);
    if (record != "")
    {
      Product_Name[idx] = parseData(record, 1);
      Quantity[idx] = stof(parseData(record, 2));
      Purchase_Prices[idx] = stof(parseData(record, 3));
      Selling_Price[idx] = stof(parseData(record, 4));
      idx++;
    }
  }
  f.close();
  return idx;
}
```

Student Reg. No: 2021-CS-144 **Student Name.** Muhammad Umair Shahid

	A-Extensive Evidence	**B-Convincing Evidence**	**C-Limited Evidence**	**D-No Evidence**
Documentation Formatting **Grade:**	All the documentation meets all the criteria.	Documentation is well formatted but some of the criteria is not fulfilled.	Documentation is required a lot of improvement.	Documentation is not Available
Documentation Formatting Criteria: In **Binder**, **Title** Page, **Header**-Footers, Font **Style**, Font **Size** all are all consistence and according to given **guidelines**. Project **Poster** is professionally design and well presented				
Documentation Contents **Grade:**	Documentation includes all of the criteria.	Documentation meet more than 80% of the criteria given.	Documentation meet more than 50% of the criteria.	When the documentation meet less than 50% of the criteria.
Documentation Contents Criteria: Title Page - **Table** of Contents - Project **Abstract** - **Functional** Requirements - **Wire** Frames –**Data Flow** Diagram-**Data** Structure (Arrays)-**Function** Headers and Description - **Algorithms** and Flow Charts of all functions- **Test Cases** are defined Project **Code.** - **Weakness** in the Project and **Future** Directions. - **Conclusion** and What your **Learn** from the Project and Course and What is your **Future** Planning.				
Project Complexity **Grade:**	Project has at least 2 user's types and each user has at least 5 functionalities.	Project complexity meet 80% criteria given in extensive evidence	Project complexity meet 50% criteria given in extensive evidence	Project complexity meet less than 50% criteria given in extensive evidence
Code Style **Grade:**	All Code style criteria is followed	All code style criteria followed but some improvements required	lot of improvements required in coding style.	**Did not follow** code style,
Code Style Criteria: Consistent code style. Code is well indented. Variable and Function names are well defined. White Spaces are well used. Comments are added.				
Code Documentation Mapping **Grade:**	Code and documentation is synchronized.	Code and documentation does not synchronized at **some** places	Code and documentation does not synchronized at **many** places	Code and documentation **does not** synchronized.
Data Structure (Arrays) **Grade:**	Data structure is sufficient for the project requirements	Data Structure is sufficient but require improvement to meet project requirements.	Data structure is not sufficient and need a lot of improvement	Data Structure is not properly identified and declared.
Sorting Features **Grade:**	Sort working 100% and generating useful report	Sorting Feature is working but sorted data is not useful for project.	Sorting feature is partial implemented	Project do not contain sorting
Modularity **Grade:**	Meet all Modularity criteria	Meet all Modularity criteria but at some places it is missing	Do not sufficiently meet the modularity criteria.	No modularity or very minimum modularity.
Modularity criteria: Functions are defined for each major feature. Functions are independent (identify from parameter list and return types)- Demo Data Functionality Added-At least Two Unit Tests are defined.				
Validations **Grade:**	Validations on all number type inputs are applied	Validations are applied but at some places it is missing.	Validations are missing at lot of places	No Validations are used
Recommendation Feature	Proper meaning full recommendation is present into system	Partial Recommendation is implemented	Implemented but not meaning full.	Not implemented
Presentation and Demo **Grade:**	Presentation and Demo was 100% working	Presentation and Demo require some improvements	Presentation and Demo require a lot of improvements	Presentation was not ok and Demo was not working
Student Understanding with the Code. **Grade:**	Student has complete understanding how the code is working and knows the concept.	Student has good understand but some place he does not know the concepts	Student has a very little understand and lack the major concepts.	Student does not have any level of understanding of the code.