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//project c++ Fall2019 : Phase1

//B55 : Instructor: Aws Fida El-Din

#include <iostream>

#include <string>

#include <fstream>

#include <iomanip>

using namespace std;

void drawLine(char);

int choices();

int main()

{

char repeat;

do

{

string ItemName;

int quantity, ItemNo, AisleNo, ExpMonth, ExpDay;

double price;

fstream file;

file.open("inventory.txt", ios::in | ios::out);

if (file.fail()) //Testing for File Open Errors

{

cout << "File open failure!\n";

return 0;

}

switch (choices())

{

case 1: //add new item : asks the user to input data of a new item and then add the data to the items file

{

char val;

cout << "Stock Control - Add Item: \n";

drawLine('=');

cout << "Enter the item Expiry Day: ";

cin >> ExpDay;

cout << "Enter the item Expiry Month: ";

cin >> ExpMonth;

cout << "Enter the item Aisle No: ";

cin >> AisleNo;

cout << "Enter the item Number: ";

cin >> ItemNo;

cout << "Enter the item price: ";

cin >> price;

cout << "Enter the quantity to be added: ";

cin >> quantity;

cout << "Enter the item name: ";

cin.ignore();

getline(cin, ItemName);

cout << "Do you want to save the item? (Y/N) ";

cin >> val;

while (val != 'Y' && val != 'y' && val != 'N' && val != 'n')

{

cout << "Enter (Y/N)!";

cin >> val;

}

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

{

file << ExpDay << "\t" << ExpMonth << "\t" << AisleNo << "\t" << ItemNo << "\t" << price << "\t" << quantity << "\t" << ItemName;

cout << "The Item saved successfully.\n";

}

else cout << "The Item not saved. Thank you!";

break;

}

case 2: //List the current inventory in a tabular format all the information about each item

{

cout << "ExpDateDay\tExpDateMonth\tAisleNo\tItemNo\tprice\tQuantity\tItemName\n";

while (file >> ExpDay >> ExpMonth >> AisleNo >> ItemNo >> price >> quantity)

{

getline(file, ItemName);

cout << setw(10) << ExpDay << setw(18) << ExpMonth << setw(11) << AisleNo << setw(7) << ItemNo << setw(7) << price << setw(11) << quantity << ItemName << endl;

}

break;

}

case 3: //All items whose quantity field < 5

{

cout << "ExpDateDay\tExpDateMonth\tAisleNo\tItemNo\tprice\tquantity\tItemName\n";

while (!file.eof())

{

file >> ExpDay >> ExpMonth >> AisleNo >> ItemNo >> price >> quantity;

getline(file, ItemName);

if (quantity < 5)

{

cout << setw(10) << ExpDay << setw(18) << ExpMonth << setw(11) << AisleNo << setw(7) << ItemNo << setw(7) << price << setw(11) << quantity << ItemName << endl;

}

}

break;

}

case 4: //All items whose price is less than a value provided by the user

{

double userPrice;

cout << "Enter a price : ";

cin >> userPrice;

cout << "Items with less price than " << userPrice << " are : \n";

cout << "ExpDateDay\tExpDateMonth\tAisleNo\tItemNo\tprice\tquantity\tItemName\n";

while (!file.eof())

{

file >> ExpDay >> ExpMonth >> AisleNo >> ItemNo >> price >> quantity;

getline(file, ItemName);

if (price < userPrice)

{

cout << setw(10) << ExpDay << setw(18) << ExpMonth << setw(11) << AisleNo << setw(7) << ItemNo << setw(7) << price << setw(11) << quantity << ItemName << endl;

}

}

break;

}

case 5: //Show All expired items information

{

cout << "Expired Items are : \n";

cout << "ExpDateDay\tExpDateMonth\tAisleNo\tItemNo\tprice\tquantity\tItemName\n";

while (!file.eof())

{

file >> ExpDay >> ExpMonth >> AisleNo >> ItemNo >> price >> quantity;

getline(file, ItemName);

if (ExpMonth == 12 && ExpDay == 31)

{

cout << setw(10) << ExpDay << setw(18) << ExpMonth << setw(11) << AisleNo << setw(7) << ItemNo << setw(7) << price << setw(11) << quantity << ItemName << endl;

}

}

break;

}

case 6: //Stock statistics: the average price, the most expensive item, the least expensive item

{

string maxItemName, minItemName;

int maxQuantity, maxItemNo, maxAisleNo, maxExpMonth, maxExpDay, minQuantity, minItemNo, minAisleNo, minExpMonth, minExpDay, counter = 0;

double maxPrice, minPrice, sum = 0, value, max = 0, min = 0, average = 0;

while (!file.eof())

{

file >> ExpDay >> ExpMonth >> AisleNo >> ItemNo >> price >> quantity;

getline(file, ItemName);

sum += price;

counter++;

if (max <= price)

{

max = price;

maxExpDay = ExpDay;

maxExpMonth = ExpMonth;

maxAisleNo = AisleNo;

maxItemNo = ItemNo;

maxPrice = price;

maxQuantity = quantity;

maxItemName = ItemName;

}

else if (min == 0) min = price;

else if (min >= price)

{

min = price;

minExpDay = ExpDay;

minExpMonth = ExpMonth;

minAisleNo = AisleNo;

minItemNo = ItemNo;

minPrice = price;

minQuantity = quantity;

minItemName = ItemName;

}

}

average = sum / counter;

cout << "Average price is " << average << endl;

cout << "The maximum price is " << max << " QR \n";

cout << "The minimum price is " << min << " QR \n";

cout << "The most expensive item is : \n";

cout << "ExpDateDay\tExpDateMonth\tAisleNo\tItemNo\tprice\tquantity\tItemName" << endl;

cout << setw(10) << maxExpDay << setw(18) << maxExpMonth << setw(11) << maxAisleNo << setw(7) << maxItemNo << setw(7) << maxPrice << setw(11) << maxQuantity << maxItemName << endl;

cout << "The least expensive item is : \n";

cout << "ExpDateDay\tExpDateMonth\tAisleNo\tItemNo\tprice\tquantity\tItemName" << endl;

cout << setw(10) << minExpDay << setw(18) << minExpMonth << setw(11) << minAisleNo << setw(7) << minItemNo << setw(7) << minPrice << setw(11) << minQuantity << minItemName << endl;

break;

}

case 9: //exit the menu

{

cout << "Bye, see you again later!";

break;

}

default: cout << "Please enter valid number"; //check validation

}

file.close();

cout << "Do you want to repeat the menu? (Y/N) : ";

cin >> repeat;

} while (repeat == 'Y' || repeat == 'y'); //ask user if he want yo repeat the menu

return 0;

}

void drawLine(char ch) //function to draw a line

{

for (int m = 0; m < 25; m++) cout << ch;

cout << endl;

}

int choices() //function display choices and return the user choice

{

int choice;

cout << "Hypermarket Managment System \n" << endl;

cout << "\t\t[1] Add Item\n";

cout << "\t\t[2] List Items\n";

cout << "\t\t[3] Item whose quantity < 5\n";

cout << "\t\t[4] Item with less price than a given price\n";

cout << "\t\t[5] Expired items\n";

cout << "\t\t[6] Stock statistics\n\n";

cout << "\t\t[9] Exit\n";

cout << "\tEnter your choice: ";

cin >> choice;

cout << endl;

return choice;

}