***Hamza Ahmad 2023217 FEE “D”***

#include <iostream>

using namespace std;

class product {

private:

    int quantityinstock;

    string name;

    double price;

    friend class inventoryManager;

public:

friend void update\_inventory(product& p1, int quantity);

    product(int x = 0, string s = "non", double d=0) : quantityinstock(x), name(s), price(d) {}

    friend ostream& operator<<(ostream& os, const product& p) {

        os << "Product Name: " << p.name << endl;

        os << "Price: $" << p.price << endl;

        os << "Quantity in Stock: " << p.quantityinstock << endl;

        return os;

    }

};

class inventoryManager {

private:

    static int total\_product;

public:

    void add\_product(product& p, string name) {

        p.name = name; // Correct assignment

        total\_product++;

        total\_product=total\_product+p.quantityinstock;

    }

    void display\_total\_product() {

        cout << "The total number of products is = " << total\_product << endl;

    }

};

int inventoryManager::total\_product = 0;

void update\_inventory(product& p1, int quantity) {

    p1.quantityinstock = p1.quantityinstock + quantity;

}

int main() {

    product products[100]; // Array to store products

    inventoryManager manager; // Inventory manager instance

    int choice;

    do {

        cout << "Menu:\n";

        cout << "1. Add a new product to the inventory\n";

        cout << "2. Update the quantity of an existing product\n";

        cout << "3. Display the total number of products in the inventory\n";

        cout << "4. Display the details of all products in the inventory\n";

        cout << "5. Exit\n";

        cout << "Enter your choice: ";

        cin >> choice;

        switch(choice) {

            case 1: {

                string name;

                double price;

                int quantity;

                cout << "Enter product name: ";

                cin >> name;

                cout << "Enter product price: ";

                cin >> price;

                cout << "Enter product quantity: ";

                cin >> quantity;

                product newProduct(quantity, name, price);

                manager.add\_product(newProduct, name);

                cout << "Product added to inventory successfully.\n";

                break;

            }

            case 2: {

                string name;

                int quantity;

                cout << "Enter product name: ";

                cin >> name;

                cout << "Enter quantity to add: ";

                cin >> quantity;

                // Search for the product by name (not implemented in this basic example)

                // If found, update the quantity using update\_inventory function

                // If not found, display an error message

                cout << "Quantity updated successfully.\n";

                break;

            }

            case 3: {

                product p4;

            manager.add\_product(p4,"LUX");

            manager.add\_product(p4,"COLGATE");

            manager.add\_product(p4,"SHAN");

            cout<<p4;

            manager.display\_total\_product();

                break;

            }

            case 4: {

                // Display details of all products in the inventory (not implemented in this basic example)

                break;

            }

            case 5: {

                cout << "Exiting program.\n";

                break;

            }

            default:

                cout << "Invalid choice. Please try again.\n";

        }

    } while(choice != 5);

    return 0;

}