



# PRODUCT MANAGEMENT

made  
by  
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# I. INTRODUCTION



## INTRODUCTION

This project is a product manager built in C using linked lists to handle operations efficiently.

## GOALS

- Provide a simple console-based user interface.
- Generate a basic report summarizing the stock.
- Export reports as .txt

## WHY ?

To automate basic operations like Add, Search, Delete, Modify, and generate simple reports.



# II. DEVELOPMENT & TOOLS

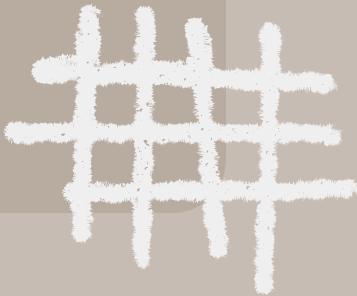


## Chosen Tools

- C Language: Performance and low-level control.
- Linked Lists: Ideal for frequent insertions/deletions.
- ANSI Escape Codes: For colored console UI.

## Key Steps

- Design the Product structure.
- Implement menus: mainMenu() and productManagementMenu().
- Develop key functions: addProduct(), deleteProduct(), searchProduct(), etc.



# III. DIFFICULTIES

- **Pointer Complexity** ✖:

Managing pointers and linked list traversal without errors.

- **Debugging** 🔧:

Finding bugs in user input handling and list operations.

- **User Interface** 💻:

Making the console interface intuitive using only text and ANSI colors.

# IV. SIMULATION

## Main Menu



- addProduct()
- searchProduct()
- modifyProduct()
- deleteProduct()
- generateReport()



# A.

## Product modification

```
WELCOME
=====
          Product Inventory Management System
=====

* Modify a Product *
Enter product ID to modify: 1

* Product Found: *
Product ID | Product Name | Quantity in Stock | Price |
1          | tonic        | 20                  | 1.00 USD |

Enter new information:
New name: bimo
New quantity: 200
New price: 1.5
```

• modifyProduct()



# B.

## Product deletion

```
WELCOME
=====
||||| Product Inventory Management System |||||
=====
* Product List *
Product ID | Product Name | Quantity in Stock | Price |
-----
0          | mars        | 20                  | 2.00 USD |
2          | m&m's      | 200                 | 3.00 USD |
1          | abtal       | 20                  | 2.00 USD |

Delete Options:
1. Delete from beginning
2. Delete from end
3. Delete from middle
4. Return
* Enter your choice: 3
Enter product ID to delete: 
```

• deleteProduct()



C.

## report generation

```
WELCOME
=====
|-----| Product Inventory Management System |-----|
* Product Inventory Report *
| ID      | Product Name       | Quantity | Price   |
|-----|
| 2       | m&m's             | 200      | 3.00   |
| 1       | abtal              | 20       | 2.00   |
|-----|
Press any key to continue...
```

• generateReport()



## V. CONCLUSION

This project allowed us to apply fundamental data structure concepts in C, especially linked lists, while providing a functional solution for stock management.

# VI. PERSPECTIVE & FUTURE IMPROVEMENTS

1

Add a graphical interface (to make it easier to use) 

2

Sort products by price or quantity 

3

Show time and date for each operation 

4

Multi-language support 



**THANK YOU  
FOR YOUR  
ATTENTION**

• Any questions ?

