# SVKM’s NMIMS

**Mukesh Patel School of Technology Management & Engineering Computer Engineering Department**

Program: B.Tech/MBATech. Sem V A.Y. 2020 - 21

# Course: Design and Analysis of Algorithms Assignment Report

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| Name of the Assignment: | Inventory Management System | |
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| Details of Project Members |  |  |
| Batch | Roll No. | Name |
| E1 | E003 | Jash Patel |
|  |  |  |
| Date of Submission: 13/10/20 | | |
| Grades/Marks: | | |

* 1. **Aim of the Project/ Problem Statement:**

To write a program and create a Inventory Management System with the use of linked list data structure and Merge Sort algorithm.

* 1. **Application /Usefulness of the Problem statement chosen:**

Grocery Inventory Management by Inventory Manager.

* 1. **Description of Assignment:**

In a Grocery Store’s Inventory, all details of products there are stored using linked list. The Inventory Manager can insert new product, update details of existing products and print the list of products using different functions like Sorting and Filtering on products. The aforementioned project has used linked list as its carrier for data. Using MERGE SORT algorithm on linked list for different types sorting purpose on products for the ease of manager. Similarly, like sorting, filtering of products also helps the manager to work on the software easily.

(If your assignment has multiple modules explain each module in detail)

1)Manager Interface:

* Insert New Product (function: insertend())
* Update Existing Product’s Details (function: update())
* Traverse All Products there in Inventory (function: mergesort(),filter())
  + Sort using Name, Price, Stock Available and Discount Given.
  + Filter using Name, Price and Discount.
  1. **Contribution of each project Members:**

|  |  |  |
| --- | --- | --- |
| Roll No. | Name: | Contribution |
| E003 | Jash Patel | Program Developer, Code Reviewer, Designer and Tester |

* 1. **Mode of Presentation:**

The mode of presentation will be a PowerPoint Presentation.

The Link given below, when clicked will redirect you to GITHUB page, where this code is saved.

[Click here to View Project](https://github.com/JashSonu/DAA-Project.git)

* 1. **Learning from the assignment:**

I learnt how the Merge Sort Algorithm works with Linked List and I implemented it here. While implementing this algorithm and coding it, I learnt various implementation of it in the real world.

* 1. **Challenges you faced while doing the assignment:**

I am familiar with Merge Sort but to implement it with linked list was the real challenge for me. I had a hard time in coding it. Another Challenge for me was the GUI Part. I am more comfortable in C++ for implementing concept of linked list than any other programming language. But in C++ to make GUI is literally not possible, but still I tried and applied a little color changing function.

* 1. **Conclusion:**

Overall, it was an amazing experience of coding and implementing this algorithm.

In this Inventory Management System, further functionalities can be added and I will try to complete those in future.

Note:

* + 1. Create a readme file if you have multiple files
    2. All files must be properly renamed
    3. All functions and variable should have proper names
    4. The code if any must be properly commented.
    5. Submit all relevant files of your work.

**Focus on uniqueness, plagiarism is highly discouraged**