**CSC 1012 Introduction to Computer Programming**

**Assignment (Individual)**

**Logistics Management System**

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# 01 INTRODUCTION

The Logistics Management System is a console based C program designed to manage transportation and delivery operations between cities. It allows users to add cities, manage distances, handle delivery requests, view delivery records, find the least-cost route, generate reports, and manage vehicle details efficiently.

This system simulates a basic logistics company operation including vehicle management, cost estimation, fuel calculation, and route optimization using simple text files for data storage.

The system's core functionality is built upon an integrated workflow that transforms user input into actionable logistical data. It begins with the foundational setup of a city network and its corresponding distance matrix. This data then serves as the basis for all subsequent operations, from generating accurate delivery quotations that factor in vehicle-specific rates and fuel costs, to calculating the shortest possible path between two locations for optimal route planning. This structured approach ensures reliable performance and provides users with a comprehensive toolset for end-to-end delivery management.

# 02.OBJECTIVES

* Manage cities and distances between them
* Handle customer delivery requests
* Estimate delivery time and cost
* Track completed deliveries and generate performance reports
* Vehicle management
* To provide a Help section
* To store all data persistently using .txt files
* To apply modular programming using functions and structures in C

# 03.SYSTEM OVERVIEW

The program provides a menu driven interface that allows users to choose from the following main modules:

1. City Management – Add, rename, remove, and view cities.
2. Distance Management – Record and view distances between cities.
3. Vehicle Information – Display vehicle types with capacity, rates, speed, and fuel efficiency.
4. Delivery Request – Calculate delivery cost, time, and profit.
5. View Deliveries – View all saved deliveries.
6. Route Finder – Find the least-cost route between cities.
7. Reports – Generate delivery statistics (revenue, profit, etc.)
8. Help-Contact informations
9. Exit -Exit the programme

# 04.DEVELOPMENT PROCESS

The system was developed using:

|  |  |
| --- | --- |
| Component | Description |
| Language | C |
| IDE Used | Code::Blocks |
| File Storage | Text files (.txt) |
| Programming Concepts | Arrays,structures,file handling,loops,switch case,modular programming |

# 05.CONSTANT & VARIABLES

## CONSTANT TABLE

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