To – do List Project

Project Title: Console- Based To- Do List in C

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Abstract

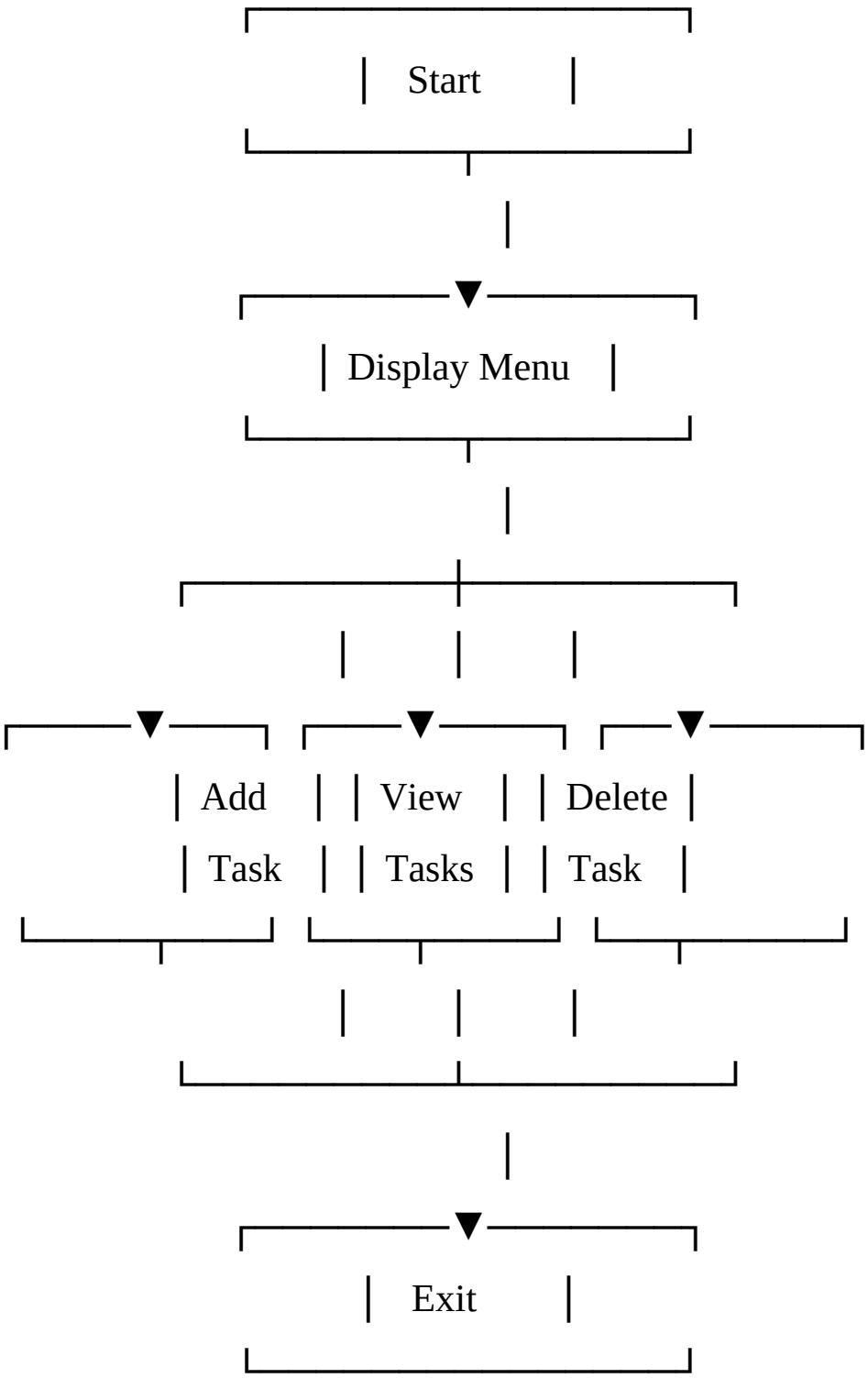
This project implements a simple console- based To- Do List application in the C programming language. The system allows users to add, view, and delete tasks interactively. It demonstrates fundamental programming concepts such as arrays, functions, loops, and modular design using header files. The project is lightweight, efficient, and designed for educational purpose.

Problem Definition

Managing tasks is a common requirement for students and professionals. Without a structured system, tasks may be forgotten or mismanaged. The problem addressed by this project is the lack of a simple, accessible tool to record and manage tasks. The solution is a terminal- based To- Do List program that provides basic task management features.

System Design

Flowchart



Algorithm

- Start program.
- Display menu with options (Add, View, Delete, Exit).
- If user selects Add → prompt for task input → store in array.
- If user selects View → display all tasks with numbering.
- If user selects Delete → prompt for task number → remove from array.
- Repeat until user selects Exit.
- End program

Implementation Details

- Language: C

- IDE: Visual Studio Code

- Compiler: GCC

- Files:

- src/todo.c → main program logic

- include/todo.h → constants and function declarations

Key Functions

- addTask() → Adds a new task to the list.

- viewTasks() → Displays all tasks.

- deleteTask() → Removes a task by its number.

Arrays are used to store tasks, and modular design is achieved by separating declarations into a header file.

Testing & Results

Test Case 1: Add three tasks → View tasks →
Expected: All three tasks displayed.

Test Case 2: Delete task 2 → View tasks →
Expected: Remaining tasks renumbered.

Test Case 3: Exit program → Expected: Program terminates successfully.

Conclusion & Future Work

The To- Do List project successfully demonstrates task management using C. It highlights arrays, functions, and modular programming.

Future enhancements:

- Save tasks to a file for persistence.
- Add task completion status.
- Implement sorting or prioritization.
- Create a graphical interface.

References

- Kernighan & Ritchie, The C Programming Language
- TutorialsPoint – C Programming Basics
- GCC Documentation