Experiment No. 6

Warehouse Stock Tracker Using Arrays and Control Structures in C

Aim: Create a C program that simulates a simple warehouse inventory management system. The program should store multiple items using arrays and allow the user to check and update stock levels. It should take inputs such as item names, current stock quantity, and restock quantity. The program must then calculate and display the updated stock details. Arrays and control structures such as loops and conditional statements should be used to manage and manipulate the inventory data effectively.

Learning Outcomes:

- After completing this experiment, students will be able to:
- Understand and apply arrays in C programming
- Design and implement a logical sequence of steps to simulate real-world warehouse operations such as stock checking and restocking.
- Gain experience in simple system simulation
- Practice debugging and testing by identifying and fixing logical or runtime errors during user input, stock updates, and data display processes.

Theory:

In C programming, arrays are used to store multiple values of the same type under a single variable name. They help efficiently manage collections of data such as product IDs, stock levels, and quantities.

Control structures such as if, else, and switch statements are used for decision-making, while for and while loops allow repetitive operations like displaying or updating inventory.

Example concepts used in this program:

```
// Declaration of arrays
 int stock[5];
 char itemName[5][20];

 // Updating stock using control structures
 if (restockQty > 0) {
 stock[i] += restockQty;
 printf("Stock updated successfully.\n");
 } else {
 printf("No restock required.\n");
 }
```

These programming constructs help simulate real-time warehouse operations such as checking stock status, restocking, and generating inventory reports.

Program Code:

Students are expected to implement this experiment by writing the complete C program for the Inventory Management System Using Control Flow Constructs and Arrays in C.

Output:

Students are expected to execute the program and provide various sample outputs for the same code to demonstrate its functionality with different input values.

Conclusion: In this experiment, an Inventory Management System was successfully developed using Control flow constructs and Arrays in C.