Algorithm:

1. Start

2. Initialize Inventory (Empty list/database to store product details)

3. Display Menu Options

    Add New Product

    Update Product

    Remove Product

    Search Product

    Display Inventory

    Track Low Stock

    Generate Reports

    Exit

4. User Selection

    If Add Product

    - Input ID, Name, Price, Quantity

    - Store in Inventory

    If Update Product

    - Search by ID

    - Modify Price or Quantity

    If Remove Product

    - Search by ID

    - Remove from Inventory

    If Search Product

    - Input ID or Name

    - Display details

    If Display Inventory

    - Show all items

    If Track Low Stock

- Display items with Quantity < threshold

If Generate Report

- Display all records in formatted way

If Exit, terminate the program

5. End

PSEUDOCODE:

```
BEGIN

    DECLARE inventory as LIST

    WHILE

        DISPLAY "1. Add Product"

        DISPLAY "2. Update Product"

        DISPLAY "3. Remove Product"

        DISPLAY "4. Search Product"

        DISPLAY "5. Display Inventory"

        DISPLAY "6. Track Low Stock"

        DISPLAY "7. Generate Reports"

        DISPLAY "8. Exit"

        INPUT choice

        IF choice = 1 THEN

            INPUT product_ID, product_name, price, quantity

            ADD (product_ID, product_name, price, quantity) TO inventory


        ELSE IF choice = 2 THEN

            INPUT search_ID

            FIND product in inventory using search_ID

            IF product FOUND THEN

                UPDATE price or quantity
```

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        ELSE

            DISPLAY "Product Not Found"

        ENDIF


    ELSE IF choice = 3 THEN

        INPUT search_ID

        FIND and REMOVE product from inventory using search_ID


    ELSE IF choice = 4 THEN

        INPUT search_ID or search_Name

        FIND and DISPLAY product details


    ELSE IF choice = 5 THEN

        DISPLAY all products in inventory


    ELSE IF choice = 6 THEN

        FOR each product IN inventory DO

            IF product.quantity < THRESHOLD THEN

                DISPLAY product details

            ENDIF

        END FOR


    ELSE IF choice = 7 THEN

        GENERATE and DISPLAY formatted inventory report


    ELSE IF choice = 8 THEN

        DISPLAY "Exiting System"

        BREAK
```

ELSE

        DISPLAY "Invalid Choice, Try Again"

    ENDIF

  END WHILE

END

FLOWCHART: