**Algorithm for the Stationery Management System**

**1. Start**

* **Action**: The program begins by displaying a welcome screen to the user. This screen will show information like the name of the system (e.g., "Welcome to the Stationery Management System!") to make the user feel informed and welcome.
* **Purpose**: This provides the user with initial system details.

**2. Main Menu**

* **Action**: The user is prompted to select one of the three options:
  + **1 for Staff**: If the user is a staff member (someone who works at the stationery shop), they will choose this option.
  + **2 for Customer**: If the user is a customer (someone who is buying stationery), they will choose this option.
  + **3 to End Program**: If the user wants to exit the system, they can choose this option.
* **Purpose**: This step directs the user to either the staff or customer section or ends the program.

**3. Staff Login**

* **Action**: If the user is staff, they are asked to enter their **username** and **password**.
  + The username is converted to **lowercase** to ensure uniformity and avoid mistakes (for example, "ZOYA" or "ZoyA" becomes "zoya").
  + The program then checks whether the entered username and password are correct by comparing them with a saved list of credentials.
  + **If valid**: If the username and password match a record, the program will say, "Welcome, [staff name]," and take the user to the **Staff Menu**.
  + **If invalid**: If the login credentials are wrong, the program will show an error message and ask the staff to try again.
* **Purpose**: This ensures only authorized staff can access certain functions like viewing or updating stock.

**4. Staff Menu**

* **Action**: Once the staff logs in, they see the following options:
  + **1 to View Stock**: The staff member can choose to view the current stock of items available in the store (e.g., pens, notebooks, etc.).
  + **2 to Update Stock**: The staff member can choose to update the stock, either by changing the quantity or price of an item.
  + **3 to Exit**: This option returns the staff member to the main menu.
  + **If the user chooses "1" to View Stock**:
    - The system displays the list of items, along with their current quantities and prices. For example: "Pen - Rs. 10 - 50" (showing the name, price, and how many pens are in stock).
  + **If the user chooses "2" to Update Stock**:
    - The staff member can either update the **quantity** (how many items are left) or **price** (how much the item costs).
    - For **updating quantity**: The system shows a list of items. The staff chooses an item, enters the new quantity, and updates the stock.
    - For **updating price**: The system shows a list of items. The staff chooses an item, enters the new price, and updates it.
  + **If the user chooses "3" to Exit**: The staff member will return to the **Main Menu**.
* **Purpose**: This allows staff members to manage and keep the store's inventory up-to-date.

**5. Customer Menu**

* **Action**: When a customer enters the system, the program asks for their **name**.
  + Then, it shows the **available stock** (names, prices, and quantities of items) so that the customer can choose what to buy.
  + **Buying Items**:
    - The customer selects the items they want to purchase, and for each item, they enter the **quantity** they wish to buy.
    - The system automatically updates the **total amount** based on the quantity and price of the selected items.
  + **Calculating Total Bill**:
    - After selecting the items, the system calculates the **total cost**, applying any available **discounts** (e.g., 10% off for a certain total).
  + **Invoice**:
    - The system generates an **invoice** for the customer, displaying:
      * The items they bought.
      * The quantity of each item.
      * The price for each item.
      * The total amount due.
      * Any discount applied.
  + **Logging Purchase**:
    - The system saves a record of the customer's purchase in a **log** for future reference.
  + **Updating Stock**:
    - After the purchase is completed, the stock is updated to reflect the new quantities after the customer has bought items.
* **Purpose**: This allows customers to buy stationery and provides them with an invoice, while also ensuring the store’s stock is updated.

**6. Save and Log Operations**

* **Action**:
  + After any updates (whether by staff or customer), the system saves the new information:
    - The updated **stock** information is saved to a file so it persists for future use.
    - Customer purchases are **logged** so there’s a record of what has been bought.
* **Purpose**: This ensures that any changes made during the session are stored safely and are available the next time the system is used.

**7. End Program**

* **Action**: When the program ends:
  + The user is shown a **thank-you message** (e.g., "Thank you for using the Stationery Management System!").
  + The system terminates, closing the program.
* **Purpose**: This provides a nice closing touch and ends the session.

**Note**

* **Separation of Roles**: Staff and customers have different tasks, which helps organize the system. Staff manages stock, while customers only interact with the products.
* **Clear Prompts**: The system prompts users at every step to ensure they know exactly what to do.
* **Saving Data**: By saving stock updates and customer purchases, the system can remember the changes and maintain consistency between sessions.
* **Scalability**: The program can be easily modified or expanded. For example, new features can be added like loyalty programs or staff roles.

This explanation should help a non-IT person understand the steps of the system, how it works, and its purpose. Each step involves user-friendly actions, and the system ensures that data is safely saved and updated. Would you like to add any specific details or adjustments?