The flowchart includes the following main steps:

1. Setup Phase:
   * Set servo motors to initial positions.
   * Close linear actuators.
   * Set stepper motor 2 to the initial position.
2. Main Loop:
   * Move stepper motor 1 clockwise.
   * Check if any plant is left using the laser sensor.
     + If yes, move stepper motor 1 back.
     + If no, proceed to the next steps.
   * Expand both linear actuators.
   * Close plant side servo and open drop side servo.
   * Close linear actuator.
   * Rotate stepper motor 2 clockwise towards the drop hole.
   * Open plant side servo and close drop side servo.
   * Rotate stepper motor 2 counter-clockwise towards the plant.
3. Repeat Process:
   * The loop repeats the process for a specified number of columns (controlled by the counter).
4. HTML Form Handling:
   * An HTML form is provided to input parameters (integers) for stepper motors, linear actuators, servo motors, and the number of columns.
5. File Handling:
   * The program reads and writes parameters to files using SPIFFS (SPI Flash File System).
6. Motor and Servo Initialization:
   * DC motors, servo motors, and stepper motors are initialized with specific pins and configurations.
7. Leafswitch Initialization:
   * A leaf switch is used for plant detection, and its state is checked during the process.
8. WiFi Initialization:
   * The program initializes WiFi for communication.
9. LCD Display:
   * Information is displayed on an LCD, including IP address and process status.
10. DC Motor and Servo Movements:

* DC motors are used for extending and retracting linear actuators.
* Servo motors are used for opening and closing grippers.

-------------------------------------------------------------------------

Start

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[Setup Phase]

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[WiFi Initialization and LCD Display]

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[HTML Form Handling]

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[File Handling (SPIFFS)]

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[Main Loop]

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[Leafswitch and Laser Sensor Handling]

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v v

[DC Motor, Servo, and Stepper Motor Movements]

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[Reset Mechanism] <--(on reset button press)--> [Main Loop]

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End

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1. Start

2. Initialization:

- Include libraries

- Define pins and parameters

- Set up web server and routes

- Initialize file system

3. Component Setup:

- Set up LCD

- Set up servo and stepper motors

- Set up DC motor

- Set up leaf switch

4. Main Loop:

a. Display information on LCD

b. Read and process values from the web form

c. Execute stepper motor movements

d. Execute DC motor movements

e. Execute servo motor actions

f. Update counter and display status on LCD

5. Conditional Checks:

a. Check leaf switch activation

b. Check reset switch

6. End of Loop:

- Display completion messages

- Prompt user to press reset

7. Stop