Step 2:

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| Data Element | Type / Source | Variable Type (in code) | Description / Role | Example Values / Constraints |
| Feeding Time Schedule | Input (Time data) | array of string or datetime | Preset feeding times when the system should dispense food. Could be stored in an array or read from a clock. | e.g. ["08:00", "18:00"] (24h format). Must be valid times of day. |
| Current Time | Input (Real-Time Clock) | string or datetime | Real-time clock input providing current system time, continuously checked against the schedule. | e.g. "07:59" (wait) then "08:00" triggers feed. Requires accurate clock. |
| Food Container Level | Input (Sensor: level or weight) | boolean or float | Sensor reading indicating if the food hopper has food available. Boolean if just empty/non-empty, float if % full. | e.g. true/false, or 30.0 (% full). If false/0%, no dispensing occurs. |
| Bowl Weight | Input (Sensor: weight) | float (grams) | Weight measurement of the food bowl contents. Used to detect how much food is dispensed and later how much is eaten. | e.g. 0.0 g before feeding, 50.0 g after portion. Range 0–1000 g. |
| Dispense Command (Controller of the rotate motor) | Output (to Servo Motor) | string or structure/object | Command to the motor to dispense food. Could be a simple string or an object with parameters (angle, time). | e.g. "rotate 90 2s". Should dispense ~50g. |
| Alert Message/Signal | Output (to Staff or Alarm) | string | Notification generated when an issue is detected. | e.g. "ALERT: Food bin empty!". Requires suitable output channel. |