# Step 3: Plan the Solution (Design the Algorithm)

**Automated Pet Feeder Algorithm**

1. **Start System**
   * Turn on the system.
2. **Initialize Settings**
   * Set feeding times (8 AM and 6 PM)
   * Set portion size (50g)
   * Reset any previous alerts or LED indicators
3. **Read Sensors**
   * Get current time.
   * Measure **bin food level.**
   * Measure **bowl weight before.**
4. **Check Feeding Time**
   * If current time is **8 AM or 6 PM**, continue
   * Otherwise, check if bin food level <15%:
     1. If yes, turn LED yellow, wait 1 minute, then loop back to reading sensors.
     2. If no, wait 1 minute, then loop back to reading sensors.
5. **Check Bin Food Level**
   * If bin food level > 0%, proceed to dispense food.
   * If bin food level = 0, turn LED red, send “Low Food” alert, then loop back.
6. **Dispense Food**
   * Activate the servo motor for 5 seconds to release food.
   * Record **bowl weight after.**
7. **Wait**
   * Wait 10 minutes for the pet to eat.
8. **Check Weight Change**
   * Calculate **weight change.**
     1. If **weight change < 5g**, turn LED red, send “Not Eaten” alert.
     2. If **weight change >= 5g**, turn LED green (feeding successful).
9. **Loop Back**
   * Return to Step 3 (Read Sensors) for the next cycle.
10. **End**
    * The system does not truly stop, it continuously monitors for scheduled feeding times.