**Step 5: Test and Refine the Solution (Debug and Verify)**

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| **Test cases** | **Input** | **Output** | **Result** |
| Scheduled Feeding | Time = 08:00, button not pressed, servo successful, weight decreases by 90g | Dispensed Dry, 100g", no alert | Pass |
| Manual Feeding | Button pressed, servo successful, weight decreases by 95g | Dispensed Dry (Manual), 100g", no alert | Pass |
| Dispense Failure | Time = 12:00, servo fails | Buzzer/LED activates, log: "Dispense Failed | Pass |
| Uneaten Food | Weight = 100g, last\_feed\_time = 2.5 hours ago | Buzzer/LED activates, log: "Food Uneaten | Pass |
| Invalid Weight | Weight = -5g | Ignore invalid weight, log error | Refined to validate weight > 0g |

**Refinement:**

* Added weight validation (ignore values ≤ 0g).
* Reduced weight check frequency to every 10 minutes to save power, with 30-second loop delay.