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

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| **Scenario** | **Input/ condition** | **Expected output** | **Results** |
| Pet eats as expected | When the food is dispensed at 8 Am, the weight of bowl is increased and after waiting 10 min the weight of bowl is decreased by 75%. | Log feeding is done and no need of alerts. | PASS |
| Pet does not eat | When the food is dispensed at 8 Am, the weight of bowl is increased and after waiting 10 min the weight of bowl remains by 75%. | Alerts will be sent.” Food not eaten” | PASS |
| Food bin is empty | When motor is rotated and the bowl weight before and after dispensing is unchanged. | Alerts will be sent. “Dispensing error. No food is added.” | PASS |
| System log check | 2 time per day is the Feeding schedule. | Record will be kept and the status i.e. food eaten or not is also saved in feedinglog. | PASS |
| Different time feeding than the scheduled one | Staff sets an additional feeding time around 2 pm for one day. | Food is dispended and record will be stored in feedinglog along with the status. | PASS |

**Discussion of logic**

1. This algorithm works in all the scenario as shown in the above testing.
2. Errors handling is done effectively.
3. Feeding log will help the owner and staff to keep monitoring each pet about their food status.

**Some of the suggestion to improvements are below:**

1. Mobile application integration should be added to push notification to the owner’s phone.
2. System should be updated in such a way it goes into sleep when not needed.
3. More AI could be added for learning system.
4. More storage for storing feeding log.