

**UNIVERSITY OF CANBERRA**  
**INTRODUCTION TO INFORMATION TECHNOLOGY (4478/8936)**

**Assignment 1: The Solving Problem Process**

**PART 1: On the solving problem process**

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

Test case	Set up	Expected output	Actual output	Refinements
Pet doesn't eat	<ul style="list-style-type: none"> <li>Current time matches with scheduled time(eg; 8:00)</li> <li>Food level sensor reads 80%(enough food)</li> <li>Motor dispenses food portion successfully</li> <li>Bowl weight increases after dispense but doesn't decrease within 10 minutes.</li> </ul>	<ul style="list-style-type: none"> <li>Alert "Pet hasn't eaten"</li> <li>Status display "CHECK PET" with red LED</li> <li>Feeding cycle ends and waits for next cycle</li> </ul>	Matches with expected output	<ul style="list-style-type: none"> <li>Add second alert reminder if the pet hasn't eaten after a set time</li> <li>Trigger camera shot to allow staffs to check on pet</li> </ul>
Food container empty	<ul style="list-style-type: none"> <li>Current time matches with scheduled time(eg; 8:00)</li> <li>Food level sensor reads 5%(below threshold)</li> </ul>	<ul style="list-style-type: none"> <li>Alert "Food container empty"</li> <li>Status display "LOW FOOD" with red LED</li> <li>Skip the feeding cycle</li> </ul>	Matches with expected output	<ul style="list-style-type: none"> <li>Send an early reminder if the food level is low (when it's 15% than 10%). So that staff can refill before next feeding</li> <li>Repeat the reminder every 30 minutes until food level is above threshold</li> </ul>
Normal Operation	<ul style="list-style-type: none"> <li>Food level sensor reads 60%</li> <li>Motor dispenses food portion successfully at a scheduled time</li> <li>Bowl weight increases after dispensing and decreases to 0 within less than 10 minutes</li> </ul>	<ul style="list-style-type: none"> <li>Status display "FEEDING" with green LED</li> <li>Reset for next cycle</li> </ul>	Matches with expected output	<ul style="list-style-type: none"> <li>Add food log to monitor pets food intake and derive trends over time</li> </ul>
Manual Feed by staffs	<ul style="list-style-type: none"> <li>Staff manually triggers feed button through the system</li> <li>Food level sensor reads 60%</li> <li>Motor dispenses successfully</li> </ul>	<ul style="list-style-type: none"> <li>Status display "FEEDING" with green LED</li> <li>Reset for next</li> </ul>	Matches with expected output	<ul style="list-style-type: none"> <li>Keep the privilege of cancelling the feed if staff presses the manual button</li> </ul>

	<ul style="list-style-type: none"><li>• Bowl weight increases after dispense and decreases within 10 minutes</li></ul>	cycle		<ul style="list-style-type: none"><li>• accidentally Alert the staff when manual feed is complete too</li></ul>
--	--	-------	--	---