**AI Coach API – Test Execution Report**

**Date of Execution:** 28 August 2025  
**Tester:** Basel  
**Tool:** Postman + Newman (CLI)  
**Report Type:** Functional & Error Validation Tests

**1. Test Execution Setup**

* **Collection Executed:** *AI Coach - Generate Plan API.postman\_collection.json*
* **Environment Used:** *AI Coach - Env.postman\_environment.json*
* **Reporter:** CLI + htmlextra
* **Machine:** Local run via Newman CLI
* **Duration:** 36.5 seconds
* **Average Response Time:** 3.2 seconds (min: 90 ms, max: 9.1 s)

**2. Test Summary**

| **Metric** | **Value** |
| --- | --- |
| Iterations | 1 |
| Requests | 11 |
| Test-Scripts Executed | 11 |
| Total Assertions | 27 |
| Failed Assertions | 4 |
| Total Data Received | ~2.93 KB |

**3. Passed Test Cases**

✅ **TC1 Happy path – multiple items**

* Status: 200 OK
* Schema valid, steps exist, max steps respected, target achieved.

✅ **TC2 Single initial item**

* Status: 200 OK
* Schema valid, steps sequential, target achieved.

✅ **TC5 Missing target\_item**

* Correctly returned error (422 with parse error).

✅ **TC6 Wrong types**

* Correctly returned error (422 with parse error).

✅ **TC10 Non-ASCII items**

* JSON handled correctly, no crash, response valid.

✅ **TC11 Malformed JSON**

* Correctly returned 422 parse error.

**4. Failed Test Cases**

❌ **TC3 Target already owned**

* **Expected:** Plan should be empty when target already owned.
* **Actual:** API still returned 5 steps.
* **Impact:** Logic error in success rule handling.

❌ **TC4 Deduplicate & normalize items**

* **Expected:** Duplicate items should be removed.
* **Actual:** Duplicate "canon ae-1" found (2 instead of ≤1).
* **Impact:** Deduplication logic not working properly.

❌ **TC7 Empty initial\_items**

* **Expected:** 400 or 422 error response.
* **Actual:** API returned **500 Internal Server Error**.
* **Impact:** Incorrect error handling for empty inputs.

❌ **TC9 Invalid max\_steps (0)**

* **Expected:** 400 Bad Request.
* **Actual:** API returned **200 OK**.
* **Impact:** API not validating max\_steps input properly.

**5. Conclusion & Recommendations**

* **Total Passed:** 7
* **Total Failed:** 4
* The API is **partially stable** but needs improvement in:
  1. Enforcing correct validation rules (max\_steps, empty items).
  2. Ensuring deduplication of items.
  3. Correct handling of already-owned targets.
  4. Avoiding 500 errors → should return meaningful 400/422 responses.