# Σχεδίαση Ελέγχων

Οι έλεγχοι που σχεδιάσθηκαν και εντάχθηκαν στην υλοποίηση περιγράφονται εδώ.

## Ελεγχος use cases via system tests

### Traceability Matrix

Η Use case εδώ είναι μία. Θα προσπαθήσουμε να την ελέγξουμε τμηματικά. Η αντιστοίχιση των βασικών βημάτων της σε id’s φαίνεται συνοπτικά εδώ:

|  |  |
| --- | --- |
|  |  |
| S1 | Load Data |
| S2 | Compute Stats |
| S3 | Report in txt |
| S4 | Report in HTML |

Ο Πίνακας 3 είναι ο traceability matrix για τους ελέγχους μας. Στη συνέχεια, οι έλεγχοι επεξηγούνται πιο αναλυτικά.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | S1 | S2 | S3 | S4 |
| T1\_V0\_01 | X |  |  |  |
| T1\_V0\_02 | X |  |  |  |
| T2\_V0\_01 |  | X |  |  |
| T2\_V0\_02 |  | X |  |  |

Πίνακας 3 Traceability matrix between use cases and tests

### **Use case UC1: load data**

**Involved methods**

MainEngine.loadData(), FullDataLoader. fullDataLoad(),

EmployeeLoader.load(), DishLoader.load(), OrderLoader.load()

**Test cases**

|  |  |  |
| --- | --- | --- |
| ID | T1\_V0\_01 | HappyDayScenario for all loaders |
| Description | ON | any context |
|  | RECEIVING | A request to load all three files for emp/dish/orders |
|  | ENSURE | That the System |
|  | OUTPUTS | 3 arraylists appropriately populated |
|  | SUCH THAT | state is intact |
| Pre-cond. |  | The main engine can work with them |
| Input |  | 3 input files with 3-4 records each, without referential integrity or other format problems |
| Output |  | 3 arraylists with the appropriate records and sizes |
| Post-cond. |  | No state properties tested |
| Method To test |  | EmployeeLoader.load(), DishLoader.load(), OrderLoader.load() |
| ID | T2\_V0\_02 | HappyDayScenario for MainEngine.loadAllData() |
|  |  | …identical setup with T2\_V0\_01 |
| Post-cond |  | The MainEngine has the appropriate arraylists in place |
| Method To test |  | MainEngine.loadAllData() |

**Not designed yet**: T1\_V1: missing file(s), T1\_V2: invalid values in input file(s) (e.g., wrong data type, negative numbers, …), T1\_V3: orders referring to emps / dishes that do not exist

**TODO**: refactor the code of MainEngine to allow a thorough test of all three arraylists.

### **Use case UC2: compute stats**

**Involved methods**

MainEngine.computeStats(),

Dish.computeDishStats(), Employee.computeEmpStats()

WeeklyStats.all getter methods (exploiting that they are static)

**Test cases**

|  |  |  |
| --- | --- | --- |
| ID | T2\_V0\_01 | HappyDayScenario for MainEngine.computeAllStats() |
| Description | ON | Data having being loaded to the main engine |
|  | RECEIVING | Request to compute stats |
|  | ENSURE | That the System |
|  | OUTPUTS | a set of stats captured via the WeeklyStats static methods |
|  | SUCH THAT | state is intact |
| Pre-cond. |  | 3 input files with 3-4 records each, without referential integrity or other format problems |
| Input |  | the produced arraylists from this loading |
| Output |  | A correct WeeklyStats object |
| Post-cond. |  | No state properties tested |
| Method To test |  | MainEngine.computeStats() |

**Not designed yet**: T2\_V1: dish without orders, T2\_V2: emp with orders,

## Unit tests

Στην παρούσα υποενότητα, παραθέτουμε πολύ συνοπτικά τα πιο σημαντικά unit test που σχεδιάστηκαν, οργανωμένα ανά κλάση. Δίνουμε μόνο το OREOS text.

**Class employeeFactory**

ON any context, RECEIVING a request for a new emp, ENSURE THAT THE SYSTEM OUTPUTS a not null emp SUCH THAT state remains intact.

**Package DataModel, Classes Employee, Dish, Orders, and Class FullDataLoader**

ON any context, RECEIVING a request loading all 3 files, ENSURE THAT THE SYSTEM OUTPUTS 3 not null arraylists SUCH THAT state remains intact.

## ΕΚΚΡΕΜΟΤΗΤΕΣ (ToDo)

Εκκρεμούν μη υλοποιημένοι έλεγχοι ως ακολούθως (αν υπάρχουν εκκρεμότητες, παραθέστε την TODO λίστα ελέγχων που πρέπει να ετοιμαστούν)

**FOR YOU:**

1. **What system tests are missing? Which use cases are not covered?**
2. **Why we cannot directly test them? What restructuring must we make to certain classes and their methods to make their code testable? (hint: to methods’ parameter lists)**
3. Also unit tests for WeeklyStats, Dishes and Orders