Software Testing and Validation

**Project Report - 2019-2020**

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**Test cases for computeCreditBill method**

To test this method, we applied the Combinational Functional Test Pattern because of the complex logic behind de process of choosing the discount value.

We elaborated a decision tree:

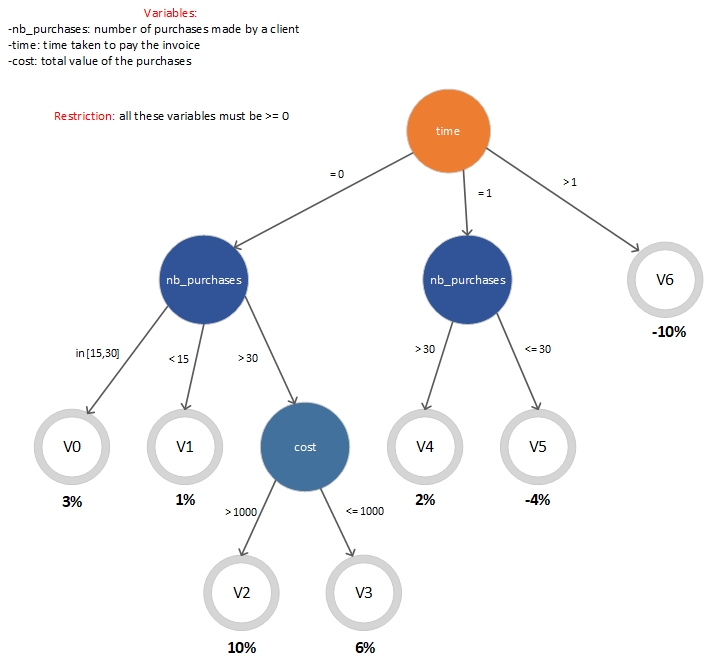


Fig. 1 – Decision tree regarding discount value

Boundary conditions for each variant:

* V0 -> time = 0 & 15 <= nb\_purchases <= 30
* V1 -> time = 0 & nb\_purchases < 15
* V2 -> time = 0 & nb\_purchases > 30 & cost > 1000
* V3 -> time = 1 & nb\_purchases > 30 & cost <= 1000
* V4 -> time = 1 & nb\_purchases > 30
* V5 -> time = 1 & nb\_purchases <= 30
* V6 -> time > 1

Domain matrixes for variants















* In total we have 21 test cases.
* The expected results marked with an X are test cases that contain an invalid value for time (-1) which isn’t supposed to happen because the time variable must be >= 0. As it was said in the project description, the expected result for these test cases is that they throw an InvalidOperationException exception.