Testing Procedures for Operational Issues

TechnoReady In-Mexico.

8th Challenge

Johan Alejandro Gloria González, NAO ID: 3346
Iván Kaleb Ramírez Torres, NAO ID: 3357

Introduction: Equivalence Classes

Equivalence Class Partitioning (ECP)

Black-box testing technique used to reduce the number of test cases

Input data is divided into partitions (equivalence classes)

Each partition represents a set of valid or invalid values

One representative value from each class is sufficient

- It's a test design technique where you group input data into classes or groups that behave the same way. Instead of testing all possible values, you test only one value per group, because all values in the group are equivalent to the expected result.

Equivalence Classes

Field	Equivalence Class	Description	Valid Example	Invalid Example
Bank Code	Valid Length	Exactly 3 numeric digits	123	12
Bank Code	Invalid Format	Non-numeric or wrong length	12A	12345
Branch Code	Valid Length	Exactly 4 numeric digits	1023	1A33
Branch Code	Invalid Length	Less or more than 4 digits	99	123456
Account Number	Valid Range	10-digit numeric code	9876543210	12345
Account Number	Invalid Format	Contains letters or symbols	A234567890	12345-7890
Personal Key	Valid Length	6-digit security key	445566	123
Personal Key	Invalid Characters	Must be numeric	55A920	91-120
Order Value	Valid Option	1 = Checkbook, 2 = Statement	1	3
Order Value	Invalid Type	Only numeric values allowed	A	#

Why these classes were selected?

- To ensure proper validation of user input in a banking context, where incorrect data formats may lead to security risks, failed transactions, or erroneous account operations.
- The chosen partitions cover valid ranges, boundary sizes, and invalid categories such as wrong length, wrong format, and unsupported values.
- This structure enables efficient test coverage while reducing the number of necessary test cases.

Costs

💰 Estimated Cost

Assumptions

- QA Analyst hourly rate: **$20 USD/hour**
- Estimated total workload (based on prior prioritization table): **~20–22 hours**

---

1. Cost Breakdown

Activity	Estimated Hours	Cost per Hour	Estimated Cost
Equivalence Class Definition	3h	$20	**$60**
Equivalence Class Documentation (PDF)	2h	$20	**$40**
Test Case Design (12 cases)	4h	$20	**$80**
Test Case Documentation (Excel)	1.5h	$20	**$30**
Java Simulation Development	4h	$20	**$80**
Execution Examples	2h	$20	**$40**
Simulation README	1h	$20	**$20**
Third-Party Review	1h	$20	**$20**
Findings Report	1h	$20	**$20**

Total Estimated Cost:

💵 $390 USD

Thank’s a lot

https://github.com/rtkaleb/Testing-Procedures-for-Operational-Issues