# Homework: Test Techniques I

## Equivalence Partitioning / Boundary Value Analysis – Income Checker

Now that you are familiar with the Equivalence Partitioning / Boundary Value Analysis Techniques, let's recall **[The Income Checker App](http://softuni-qa-loadbalancer-2137572849.eu-north-1.elb.amazonaws.com/income-checker/)** from the QA Basics course, that categorizes the given **monthly income** into one of the following categories: "**low**", "**mid**", "**high"**. It works as follows:

* If the income is less than 1000, returns “**low**”
* If the income between 1000 (inclusively) and 3000 (exclusively), returns “**mid**”
* If the income is equal or bigger than 3000, returns “**high**”
* If the income is negative, returns “**error**”

**Your task is:**

**Equivalence Partitioning:** Divide the possible input values of the "**income**" into different equivalence classes or partitions. Remember to include both valid and invalid partitions.

**Boundary Value Analysis:** Identify the boundary values of the defined partitions and come up with test cases that include these boundary values. Ensure you consider "**edge cases**" - values just outside of valid ranges.

**Note:** Keep in mind that testing should cover not only expected or valid inputs but also unexpected or invalid ones. Consider all possible scenarios that might be encountered in a real-world situation.

**Equivalence Partitioning Test Cases including invalid cases:**

|  |  |  |
| --- | --- | --- |
| **Test Case ID** | **Input** | **Expected Output** |
| TC01 | 500 | "low" |
| TC02 | 2000 | “mid” |
| TC03 | 4000 | “high” |
| TC04 | 3000 | “high” |
| TC05 | -100 | “error” |
| TC06 | 0 | "low" |

**Boundary Value Analysis Test Cases including invalid cases:**

|  |  |  |
| --- | --- | --- |
| **Test Case ID** | **Input** | **Expected Output** |
| TC07 | 999 | "low" |
| TC08 | 1000 | "low" |
| TC09 | **1001** | “mid” |
| TC10 | **2999** | “mid” |
| TC011 | **3000** | “high” |
| TC12 | **3001** | “high” |
| TC13 | **0** | "low" |
| TC14 | **-1** | “error” |
| TC15 | **-50** | “error” |

## 2. Pairwise Testing - eCommerce Checkout Function

Assume you have a checkout function of an eCommerce application for testing. The function contains the following fields with their input values:

**Drop-down menu that contains 5 different shipping methods (input values – 1, 2, 3, 4, 5);**

**Radio button for gift wrapping (input values – Yes or No);**

**Checkbox for agreeing to terms and conditions (input values - Checked or Unchecked);**

**Place Order button (input values - Does not accept any value, only finalizes the order).**

**Your task is:**

1. Calculate how many would be the positive test cases, if you have to cover every single possibility?

|  |
| --- |
| **Your Answer: 20** |

Using Pairwise testing, reduce the number of necessary test cases.

|  |
| --- |
| **Add a screenshot of the reduced test cases here:** |

We have only considered positive test cases so far. What about negative ones? Write at least 3 negative test cases.

|  |
| --- |
| 1. Attempt to place an order with no shipping method selected:  - Shipping method: None selected  - Gift wrapping: Yes  - Terms and conditions: Checked  - Expected behavior: The system should display an error message indicating that a shipping method needs to be selected. |
| 2. Attempt to place an order without agreeing to terms and conditions:  - Shipping method: Option 1  - Gift wrapping: No  - Terms and conditions: Unchecked  - Expected behavior: The system should display an error message indicating that the terms and conditions need to be agreed to before placing the order. |
| 3. Attempt to place an order with conflicting options:  - Shipping method: Option 3  - Gift wrapping: Yes  - Terms and conditions: Unchecked  - Expected behavior: The system should display an error message indicating that the selected options are conflicting and need to be resolved before placing the order. For example, the system might require agreeing to the terms and conditions when selecting gift wrapping. |