# 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 | -10 | “error” |
| TC05 | empty | Not possible |
| TC06 | "abc" (non-numeric input) | Not possible |

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

|  |  |  |
| --- | --- | --- |
| **Test Case ID** | **Input** | **Expected Output** |
| TC07 | 999 | "low" |
| TC08 | 1000 | “mid” |
| TC09 | 1001 | “mid” |
| TC10 | 2999 | “mid” |
| TC11 | 3000 | “high” |
| TC12 | 3001 | “high” |
| TC13 | 0 | “low” |
| TC14 | 1 | “low” |
| TC15 | -1 | “error” |
| TC15 |  |  |

## 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?

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

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

|  |  |  |  |
| --- | --- | --- | --- |
|  | **Drop-down menu** | **Radio button for gift wrapping** | **Checkbox for agreeing to terms and conditions** |
| **1** | 1 | yes | checked |
| **2** | 1 | no | unchecked |
| **3** | 2 | no | checked |
| **4** | 2 | yes | unchecked |
| **5** | 3 | no | checked |
| **6** | 3 | yes | unchecked |
| **7** | 4 | yes | checked |
| **8** | 4 | yes | unchecked |
| **9** | 4 | no | checked |
| **10** | 5 | yes | unchecked |
| **11** | 5 | yes | checked |
| **12** | 5 | no | checked |

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

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| --- |
| Example: Attempt to place an order with no shipping method selected. |
| TC1 Attempt to place order with no checked the box for conditions. |
| TC2 Attempt to click on Place Order Button without filling the other boxes |
| TC3 Attempt to place order with invalid shipping method |