**Business Goal** – to ensure that the scraped XML data (now referred to as just ‘data’) is correct and consistent for a particular APS customer

**User stories for data validity checking**

* As the APS system, in order to display the correct statement to the correct customer, I want to be able to validate the customer’s e-billing account number
* As the APS system, in order to ensure that the scraped data is consistent, I want to be able to validate that corresponding fields appearing on the data more than once are equal
* As the APS system, in order to ensure that the data has no invalid amount value fields, I want to be able to validate the total amounts against other value fields in the data

**Key Examples: Scraped XML Data**

* If the data reflects the correct account number, the data is deemed acceptable and suitable for storage
* If all the values in text-value pairs that have matching ID’s in the scraped data are equal, the data is deemed acceptable and suitable for storage
* If the totals appearing on the data are equal to the correct calculation using the other applicable amounts on the data, the data is deemed acceptable and suitable for storage

***Given*** *that the correct account number for any scraped e-billing account is 123456789,* ***then*** *we expect the following:*

|  |  |  |
| --- | --- | --- |
| **Scraped Text-Value Pairs** | **Expected Account Number** | **Acceptable** |
| Account Number: 123456789 | 123456789 | TRUE |
| Account Number: 987654321 | 123456789 | FALSE |

***Given*** *that the VAT rate on the data is 14%,* ***when*** *the New Charges total amount is R2000,* ***then*** *we expect the following:*

|  |  |  |  |
| --- | --- | --- | --- |
| **New Charges: Total** | **VAT Rate** | **VAT Amount** | **Acceptable** |
| R 2 000 | 14% | R 280 | TRUE |
| R 2 000 | 14% | != R280 | FALSE |

***Given*** *that*   
Total Due = Opening Balance + New Charges – Payment Received – Discount – Deductions  
***and*** *these text-value pairs are common to all e-billing statements*  
***then*** *we expect the following:*

|  |  |  |
| --- | --- | --- |
| **Scraped Text-Value Pairs** | **Total Due** | **Acceptable** |
| Opening Balance: R2000 - Payment Received: R300 + New Charges: R200 - Discount: R50 - Deductions: R100 | R 1 750 | TRUE |
| Opening Balance: R2000 - Payment Received: R300 + New Charges: R200 - Discount: R50 - Deductions: R100 | != R1750 | FALSE |

***Given*** *that*   
New Charges = Electricity Charges + Gas Charges + Water Charges + Sewerage Charges + Refuse Charges  
***and*** *these text-value pairs are common to all Municipal e-billing statements*  
***then*** *we expect the following:*

|  |  |  |
| --- | --- | --- |
| **Scraped Text-Value Pairs** | **New Charges: Total** | **Acceptable** |
| Electricity Charges: R120 +Gas Charges: R100 +Water Charges: R50 +Sewerage Charges: R75 +Refuse Charges: R25 | R 370 | TRUE |
| Electricity Charges: R120 +Gas Charges: R100 +Water Charges: R50 +Sewerage Charges: R75 +Refuse Charges: R25 | != R370 | FALSE |

***Given*** *that*   
New Charges = Service Charges + Call Charges  
***and*** *these text-value pairs are common to all Telco e-billing statements*  
***then*** *we expect the following:*

|  |  |  |
| --- | --- | --- |
| **Scraped Text-Value Pairs** | **New Charges: Total** | **Acceptable** |
| Service Charges: R130.43 +Call Charges: R250.33 | R 380.76 | TRUE |
| Service Charges: R130.43 +Call Charges: R250.33 | != R380.76 | FALSE |

***Given*** *scraped XML data,* ***then*** *we expect the following:*

|  |  |
| --- | --- |
| **Scraped XML Data** | **Acceptable** |
| <datapair id = "001">  <text>Account Number</text>  <value>123456789</value> <datapair id = "001">  <text>Account Number</text>  <value>123456789</value> | TRUE |
| <datapair id = "001">  <text>Account Number</text>  <value>123456789</value> <datapair id = "001">  <text>Account Number</text>  <value>987654321</value> | FALSE |
| <datapair id = "011">  <text>Account Number</text>  <value>123456789</value> <datapair id = "001">  <text>Account Number</text>  <value>987654321</value> | TRUE |