

Test Report - CREATEACCT



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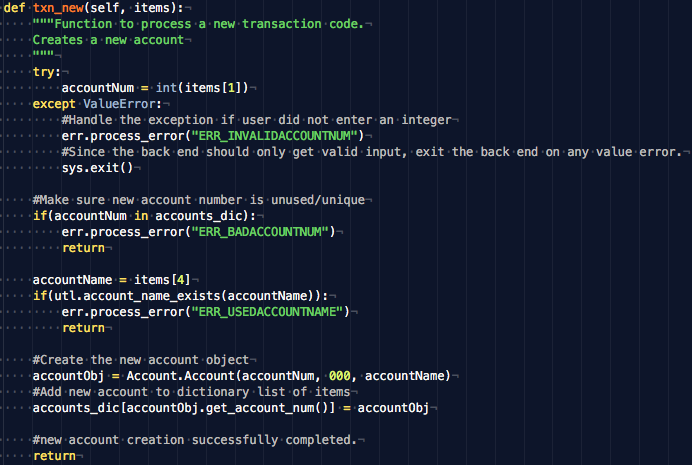
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# Test method of choice: White Box Input Partitioning Testing

# Source:



# Input Partitions:

The method that processes the createacct transaction takes in a list of space separated items that make up the transaction command. Where one createacct command is in the following format:

“NEW <accountToBeCreated> 000 0000000 <accountName>”

**\*Note**, an assumption was made that BOTH the account number and account name need to remain unique when creating a new account. This constraint was not explicitly stated in the assignment documentation, and therefore a decision was made by the team to keep it as a constraint.

The input can be partitioned as follows:

|  |  |  |
| --- | --- | --- |
| Partition | Account Number to be created | Account Name to be created |
| P1 | Used Account number | Valid Account Name |
| P2 | Used Account number | Invalid Account Name |
| P3 | Valid Account Number | Invalid Account Name |
| P4 | Valid Account Number | Valid Account Name |
| P5 | Non-integer Account Number | Invalid Account Name |
| P6 | Non-integer Account Number | Valid Account Name |

# Table of test cases and their inputs:

The following provides a table identifying the test cases necessary to exercise white box input partitioning testing on the create account transaction process for the back office. The decisions below relate to the source image portrayed above and the identified input partitions seen above.

In addition to identifying the various test cases, the table provides the inputs used to exercise each of the various test cases and a summary of the intended behavior. For each input partition a single input combination was chosen to cover that input partition case, therefore the 6 input partitions identified above relate directly to the 6 test cases seen below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test | Partition | Input 1 | Input 2 | Test Case Summary |
| test\_1 | P1 | *accountNum(equivalent to items[1]):*  *7777777* | *accountName(equivalent to items[4]):*  *BUSH* | The account number provided already exists in the master accounts file being passed into the back office. Therefore, the createacct transaction should not occur even if the account name is valid. |
| test\_2 | P2 | *accountNum(equivalent to items[1]):*  *7777777* | *accountName(equivalent to items[4]):*  *OBAMA* | The account number provided already exists in the master accounts file being passed into the back office. Additionally, the account name being provided is also already used by a previous account in the master accounts file. Therefore, the createacct transaction should not occur. |
| test\_3 | P3 | *accountNum(equivalent to items[1]):*  *1234567* | *accountName(equivalent to items[4]):*  *OBAMA* | The account name provided already exists in the master accounts file being passed into the back office. Therefore, the createacct transaction should not occur even if the account number is valid. |
| test\_4 | P4 | *accountNum(equivalent to items[1]):*  *1234567* | *accountName(equivalent to items[4]):*  *BUSH* | The account number and the account name provided are not yet in use by previous accounts. Since both inputs are valid integer and string inputs respectively, the createacct transaction should proceed. |
| test\_5 | P5 | *accountNum(equivalent to items[1]):*  *777HJ77* | *accountName(equivalent to items[4]):*  *OBAMA* | The account name provided is not a valid 7-digit integer indicating that the constraints for a createacct transaction are not followed. Additionally the account name provided is already in use by an existing account in the master accounts file. Therefore, the createacct transaction should not proceed. |
| test\_6 | P6 | *accountNum(equivalent to items[1]):*  *777HJ77* | *accountName(equivalent to items[4]):*  *BUSH* | The account name provided is not a valid 7-digit integer indicating that the constraints for a createacct transaction are not followed. Therefore, the createacct transaction should not occur even if the account name is valid. |

# Test Case Analysis:

## test\_1 (Covering partition P1)

Relevant transaction summary file line:

**NEW 7777777 000 0000000 BUSH**

Master accounts file contents:

**7777777 3210 OBAMA**

Referring to the input partition P1, this test case intends to check if an existing account number with a new unique account name can be used to create a new account. Even though the account name is unique, the already used account number should cause the createacct transaction to be denied.

The expected output is that the createacct transaction will not take place and the output master accounts file will still depict the original list of accounts (no new account added to the list). Similarly, the valid accounts file created should also only depict the accounts created before the createacct transaction was trigged.

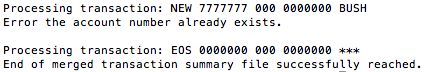
**Expected** **New Master Accounts File**:

The new master accounts file can be found in Testing/CREATEACCT/Expected Output Files/output\_maf\_test\_1.txt

**Expected** **New Valid Accounts File**:

The new valid accounts file can be found in Testing/CREATEACCT/Expected Output Files/output\_maf\_test\_1.txt

**Expected** **Std output**:



## test\_2 (Covering partition P2)

Relevant transaction summary file line:

**NEW 7777777 000 0000000 OBAMA**

Master accounts file contents:

**7777777 3210 OBAMA**

Referring to the input partition P2, this test case intends to check if an existing account number with an existing account name can be used to create a new account. In this case, both the account number and the account name are already in use so a createacct transaction should be denied. Either of these conditions would cause the transaction to not proceed in a defect free back office system.

The expected output is that the createacct transaction will not take place and the output master accounts file will still depict the original list of accounts (no new account added to the list). Similarly, the valid accounts file created should also only depict the accounts created before the createacct transaction was trigged.

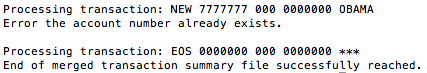
**Expected** **New Master Accounts File**:

The new master accounts file can be found in Testing/CREATEACCT/Expected Output Files/output\_maf\_test\_2.txt

**Expected** **New Valid Accounts File**:

The new valid accounts file can be found in Testing/CREATEACCT/Expected Output Files/output\_maf\_test\_2.txt

**Expected** **Std output**:



## test\_3 (Covering partition P3)

Relevant transaction summary file line:

**NEW 1234567 000 0000000 OBAMA**

Master accounts file contents:

**7777777 3210 OBAMA**

Referring to the input partition P3, this test case intends to check if a new (not already existing) account number with an existing account name can be used to create a new account. In this case, even though the account number cannot be found in the Master Accounts File (it is unique), the account name already exists (is in the Master Accounts File) and therefore a createacct transaction should be denied.

The expected output is that the createacct transaction will not take place and the output master accounts file will still depict the original list of accounts (no new account added to the list). Similarly, the valid accounts file created should also only depict the accounts created before the createacct transaction was trigged.

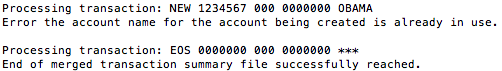
**Expected** **New Master Accounts File**:

The new master accounts file can be found in Testing/CREATEACCT/Expected Output Files/output\_maf\_test\_3.txt

**Expected** **New Valid Accounts File**:

The new valid accounts file can be found in Testing/CREATEACCT/Expected Output Files/output\_maf\_test\_3.txt

**Expected** **Std output**:



## test\_4 (Covering partition P4)

Relevant transaction summary file line:

**NEW 1234567 000 0000000 BUSH**

Master accounts file contents:

**7777777 3210 OBAMA**

Referring to the input partition P4, this test case intends to check if a new (not already existing) account number with a new unused account name can be used to create a new account. In this case, both the account number and the account name will not yet exist in the Master Accounts File and are unique. Therefore, it is expected that the createacct transaction will be allowed to complete.

The expected output is that the createacct transaction will take place and the output master accounts file will depict the original list of accounts in addition to the newly created account. Similarly, the valid accounts file created should also depict the previously created accounts as well as the account number of the account created through this test.

**Expected** **New Master Accounts File**:

The new master accounts file can be found in Testing/CREATEACCT/Expected Output Files/output\_maf\_test\_4.txt

**Expected** **New Valid Accounts File**:

The new valid accounts file can be found in Testing/CREATEACCT/Expected Output Files/output\_maf\_test\_4.txt

**Expected** **Std output**:

createacctScreenshots/test4stdout_createacct.png

## test\_5 (Covering partition P5)

Relevant transaction summary file line:

**NEW 777HJ77****000 0000000 OBAMA**

Master accounts file contents:

**7777777 3210 OBAMA**

Referring to the input partition P5, this test case intends to check if an invalid non-integer account number with an existing account name can be used to create a new account. Either of these conditions would cause the transaction to not proceed in a defect free back office system. A non-integer input should not be accepted as the account number must be a 7-digit number. The account name is in the correct format however is already in use by an existing account and therefore should not be accepted. Therefore, since both these conditions are invalid, it is expected that the createacct transaction will be denied.

The expected output is that the createacct transaction will not take place and the output master accounts file will still depict the original list of accounts (no new account added to the list). Similarly, the valid accounts file created should also only depict the accounts created before the createacct transaction was trigged.

**Expected** **New Master Accounts File**:

The new master accounts file can be found in Testing/CREATEACCT/Expected Output Files/output\_maf\_test\_5.txt

**Expected** **New Valid Accounts File**:

The new valid accounts file can be found in Testing/CREATEACCT/Expected Output Files/output\_maf\_test\_5.txt

**Expected** **Std output**:

createacctScreenshots/test5stdout_createacct.png

## test\_6 (Covering partition P6)

Relevant transaction summary file line:

**NEW 777HJ77****000 0000000 BUSH**

Master accounts file contents:

**7777777 3210 OBAMA**

Referring to the input partition P6, this test case intends to check if an invalid non-integer account number with a new unused account name can be used to create a new account. A non-integer input should not be accepted as the account number must be a 7-digit number. Even though the account name provided is a valid unused account name, it is expected that the createacct transaction will be denied due to the invalid account number provided.

The expected output is that the createacct transaction will not take place and the output master accounts file will still depict the original list of accounts (no new account added to the list). Similarly, the valid accounts file created should also only depict the accounts created before the createacct transaction was trigged.

**Expected** **New Master Accounts File**:

The new master accounts file can be found in Testing/CREATEACCT/Expected Output Files/output\_maf\_test\_6.txt

**Expected** **New Valid Accounts File**:

The new valid accounts file can be found in Testing/CREATEACCT/Expected Output Files/output\_maf\_test\_6.txt

**Expected** **Std output**:

createacctScreenshots/test6stdout_createacct.png

# Test Report:

#####################TESTING STATISTICS#####################

Tests Passed: 6

Tests Failed: 0

Tests Run: 6

###########################################################

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Test# | Test Area | Test Name | Result | Acceptance Criteria | Error in output, Error in code, and fix applied | Re-Test details |
| 1 | Createacct | test\_1 | Pass | When input transaction file for createacct transaction includes an account number already present in the master accounts file, and an **unused** (new) account name, the transaction does not take place. No change is made to the master accounts file or the valid accounts file. Std output should indicate error message for account number already exists. | N/A | N/A |
| 2 | Createacct | test\_2 | Pass | When input transaction file for createacct transaction includes an account number already present in the master accounts file, and an already used account name, the transaction does not take place. No change is made to the master accounts file or the valid accounts file. Std output should indicate error message for account number already exists OR error message for account name already exists. | N/A | N/A |
| 3 | Createacct | test\_3 | Fail | When input transaction file for createacct transaction includes an account number **not** already present in the master accounts file, and an already used account name, the transaction does not take place. No change is made to the master accounts file or the valid accounts file. Std output should indicate error message for account name already exists. | **Error in output**:  The outputted master accounts file and valid accounts file reflected a new account had been created even though no account creation should have been permitted.  Error message in std output was not observed but should have been.  **Error in code:**  The code only checked for already used account numbers (that already exist in master accounts file) but not for already used account names. Not having a check for the account name, allowed any valid string account name to be used.  **Fix applied:**  A check was added in the create account transaction method (txn\_new) to call a new method called utl.account\_name\_exists. This call would return true if the account name provided already exists and cause an error message to be presented on STDOUT as well as cancel the createacct transaction. | Performed manual unit test on several createacct transactions to ensure an existing account name (that exists in the master accounts file) causes and error message to be printed and for the transaction to be cancelled. Ensured that now new account was created in the new master accounts file and the new valid accounts file.  Re-ran tests to ensure test failure was no longer observed. |
| 4 | Createacct | test\_4 | Pass | When input transaction file for createacct transaction includes an account number **not** already present in the master accounts file, and a **not** already present account name, the transaction should take place. The new account created should be added to the master accounts file or the valid accounts file. Std output should not indicate any error messages related to the createacct transaction. | N/A | N/A |
| 5 | Createacct | test\_5 | Pass | When input transaction file for createacct transaction includes a **non-integer** account number not already present in the master accounts file, and an already present account name, the transaction should not take place. No change is made to the master accounts file or the valid accounts file. Std output should indicate error message for invalid account number format. | N/A | N/A |
| 6 | Createacct | test\_6 | Pass | When input transaction file for createacct transaction includes a **non-integer** account number not already present in the master accounts file, and a new **not** already present account name, the transaction should not take place. No change is made to the master accounts file or the valid accounts file. Std output should indicate error message for invalid account number format. | N/A | N/A |

# Team Contribution:

|  |  |  |
| --- | --- | --- |
| Name | Hours Spent | Tasks |
| Muhammad Usman Majeed |  |  |
| Jessica Nahulan |  |  |
| Johan Cornelissen |  |  |