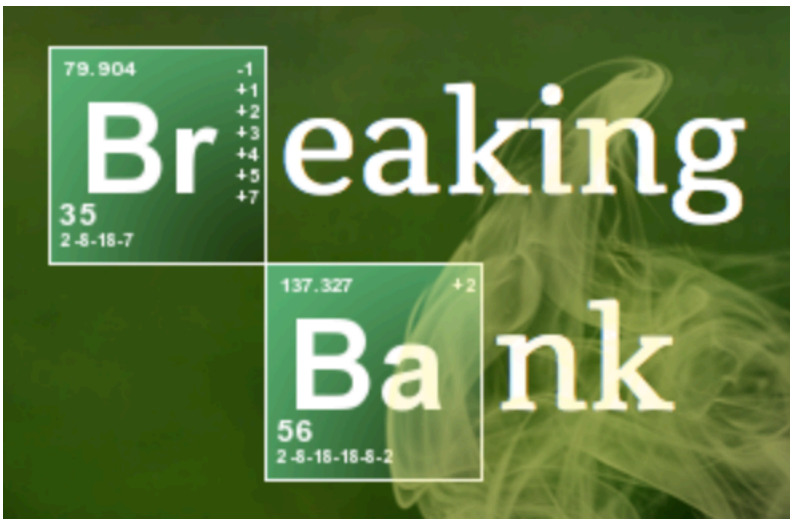

CISC 327 Assignment #5

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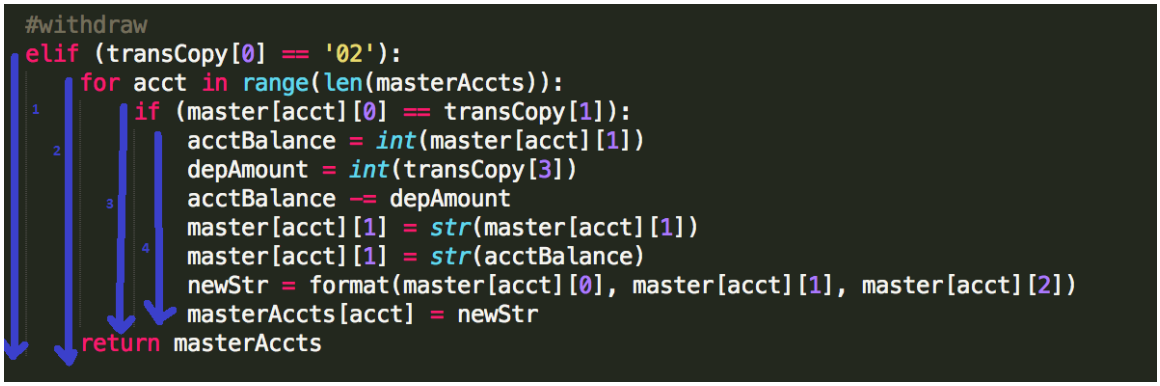
Withdraw

Source Code

```
elif (transCopy[0] == '02'):
       for acct in range(len(masterAccts)):
              if (master[acct][0] == transCopy[1]):
                     acctBalance = int(master[acct][1])
                     depAmount = int(transCopy[3])
                     acctBalance -= depAmount
                     master[acct][1] = str(master[acct][1])
                     master[acct][1] = str(acctBalance)
                     newStr = format(master[acct][0], master[acct][1],
master[acct][2])
                     masterAccts[acct] = newStr
return masterAccts
```

Analysis of Test Cases for Basic Block Testing



We have 4 basic blocks to cover for our Withdrawals in the back end.

Block	transCopy[0]	masterAccts	master[acct][0]	transCopy[1]	Test
1	02	empty	empty	000001	1
2	02	1 account	000001	000002	2
3	02	1 account	000001	000001	3
4	02	1 account	000001	000001	

Actual Test Inputs for each Case

Test 1
Merged Transactions file:
02_000001_BBBBBB_00000000_NNNNNNNNNNNNNNN

Master Accounts file: Empty

Test 2
Merged Transactions file:
02_000002_BBBBBB_00000100_NNNNNNNNNNNNNN

Master Accounts file:
000001_00001000_ Bob

Test 3
Merged Transactions file:
02_000001_BBBBBB_00000100_Bob

Master Accounts file:
000001_00001000_ Bob

Test Report

TEST #	Results	Failure (Yes/No)	Analysis
1	Empty Master accounts, and empty valid accounts files	No	Test 1 gave the correct output for the input
2	Printed incorrect master accounts, and valid accounts	Yes	Cause: incorrect format function in backend, leading to the return of a hard-coded string
3	Printed incorrect master accounts, and valid accounts	Yes	Cause: incorrect format function in backend, leading to the return of a hard-coded string
2	Incorrect output	Yes	Incorrect merged transactions file
3	Correct output, and updated master and valid accounts	No	Test 3 gave the correct output for the input on the second run
2	Correct output and updated master and valid accounts	No	Test 2 gave the correct output for the input on the third run

How Withdraw tests were executed

Withdraw shell script

```
#!/bin/bash

cd testsuite1
python breakingbank-backend.py
```

cd ..
cd testsuite2
python breakingbank-backend.py

cd ..
cd testsuite3
python breakingbank-backend.py

The way we performed the tests on withdraw was running this shell script which went through each of our test suites and ran our back end. Each suite contained a master accounts file and a merged transactions file, as per the specified inputs.

Delete

Source Code

```
elif (transCopy[0] == '05'):  #delete _ do decision testing, need a
test case it evaluate every if both ways
            print "DEL"
            acctNum = str(transCopy[1])
            print "acctNum ", acctNum
            transAcctName = str(transCopy[4])
            print "transAcctName", transAcctName
            for acct in range(len(master)):
                  print "master[acct][0]", master[acct][0]
                  if (acctNum == master[acct][0]):
                        print "acctNum MATCH"
                        acctBalance = master[acct][1]
                        print "acctBalance", acctBalance
                        if (acctBalance == '00000000'):
                              acctName = str(master[acct][2])
                              print "acctNAME", acctName
                              if (transAcctName == acctName):
                                    print "SAME NAME"
                                    masterAccts =
masterAccts.remove(masterAccts[acct])
                              else:
                                    throwError()
                        else:
                              throwError()
            return masterAccts
```

Analysis of Test Cases for Decision Testing

```
elif (transCopy[0] == '05'):
    acctNum = int(trans[1])
    transAcctName = trans[4]
    for acct in range(master):
1.      if (acctNum == acct[0]):
            acctBalance = acct[1]
2.          if (acctBalance == 0):
                acctName = acct[2]
3.              if (transAcctName == acctName):
                    masterAccts.remove(masterAccts[acct])
                else:
                    throwError()
            else:
                throwError()
    return masterAccts
```

(Above image, contains the contents of the starting code)

There are 3 decisions made in the block, thus we have 3 decision test cases.

Decision	masterAccts	master[acct][0]	transCopy[1]	Test
1	1 account	000001	000002	1
2	1 account	000001	000001	2
3	1 account	000001	000001	3
1	1 account	000001	000001	4
2	1 account	000001	000001	5
3	1 account	000001	000001	6

Decision	transCopy[4]	acct[1]	acct[2]	Test
1	aaaaaaaaaaaaaaa	00000000	aaaaaaaaaaaaaaa	1
2	aaaaaaaaaaaaaaa	00000001	aaaaaaaaaaaaaaa	2
3	aaaaaaaaaaaaaab	00000000	aaaaaaaaaaaaaaa	3
1	aaaaaaaaaaaaaaa	00000000	aaaaaaaaaaaaaaa	4
2	aaaaaaaaaaaaaaa	00000000	aaaaaaaaaaaaaaa	5
3	aaaaaaaaaaaaaaa	00000000	aaaaaaaaaaaaaaa	6

Please read the 2 tables as if they were connected.

Actual Test Inputs for each Case

Test 1
Merged Transactions file:
05_000002_BBBBBB_00000000_aaaaaaaaaaaaaaa

Master Accounts file:
000001_00000000_aaaaaaaaaaaaaaa

Test 2
Merged Transactions file:
05_000001_BBBBBB_00000000_aaaaaaaaaaaaaaa

Master Accounts file:
000001_00000001_ aaaaaaaaaaaaaaa

Test 3
Merged Transactions file:
05_000001_BBBBBB_00000000_aaaaaaaaaaaaaab

Master Accounts file:
000001_00000001_aaaaaaaaaaaaaaa

Test 4
Merged Transactions file:
05_000001_BBBBBB_00000000_aaaaaaaaaaaaaaa

Master Accounts file:
000001_00000000_aaaaaaaaaaaaaaa

Test 5
Merged Transactions file:
05_000001_BBBBBB_00000000_aaaaaaaaaaaaaaa

Master Accounts file:
000001_00000000_aaaaaaaaaaaaaaa

Test 6
Merged Transactions file:
05_000001_BBBBBB_00000000_aaaaaaaaaaaaaaa

Master Accounts file:
000001_00000000_aaaaaaaaaaaaaaa

Test Report

TEST #	Results	Failure (Yes/No)	Analysis
1	Empty Master accounts, and empty valid accounts file	No	Gave correct output, but did not technically do anything, test case was altered after this result
2	1 account in Master accounts, account has a non-zero balance	Yes	Wrote to valid accounts file, should have thrown fatal error instead, but a comparison on mismatched types was occurring, bug in code was fixed
3	1 account in Master accounts, transaction account name and Master account name were different	Yes	Wrote to valid accounts file, did not throw fatal error because of a comparison on mismatched types, bug in code was fixed
1	Test case altered to contain different account number from transaction account number	No	Test 1 gave the correct output for the input
2	1 account in Master accounts, account has a non-zero balance	No	Test 2 gave a fatal error, passed test
3	1 account in Master accounts, account has a non-zero balance	No	Test 3 gave a fatal error, passed test
4	Added to test opposite outcome of decision 1. 1 account in Master accounts file, account number is same as transaction account number	No	Test 4 correctly deleted the account from master accounts file
5	Added to test opposite outcome of decision 2. 1 account in Master accounts file has zero balance	No	Test 5 correctly deleted the account from master accounts file
6	Added to test outcome of decision	No	Test 6 correctly deleted the account from master accounts file

	3. 1 account in Master accounts file has same name as transaction account name		

How delete tests were executed

Delete shell script

```
#!/bin/bash

cd testsuite1
echo "testing suite 1"
python breakingbank-backend.py

cd ..
cd testsuite2
echo "testing suite 2"
python breakingbank-backend.py

cd ..
cd testsuite3
echo "testing suite 3"
python breakingbank-backend.py

cd ..
cd testsuite4
echo "testing suite 4"
python breakingbank-backend.py

cd ..
cd testsuite5
echo "testing suite 5"
python breakingbank-backend.py

cd ..
cd testsuite6
echo "testing suite 6"
python breakingbank-backend.py
```

The way we performed the tests on delete was running this shell script which went through each of our test suites and ran our back end. Each suite contained a master accounts file and a merged transactions file, as per the specified inputs.