**Back Office Unit Testing**

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**Statement Coverage:**

**Code to Analyze:**

0) def newAccHandler(masterAccounts, accountNum, accountName):  
 # Checking if account number is already in use.  
1) if (len(masterAccounts) != 0):  
2) for index in range(0, len(masterAccounts)):  
3) if (masterAccounts[index][0] = accountNum):  
4) print(“Cannot create account ” + accountNum + “. It has already been taken.”)  
5) return masterAccounts  
 # Inserting new account in sorted order.  
6) if (len(masterAccounts) == 0):  
7) masterAccounts.append([accountNum, “0”, accountName])  
8) return masterAccounts  
9) for index in range(0, len(masterAccounts)):  
10) if (int(masterAccounts[index][0]) > int(accountNum)):  
11) masterAccounts.insert(index-1, [accountNum, “0”, accountName])  
12) return masterAccounts  
13) if (index == len(masterAccounts) -1):  
14) masterAccounts.append([accountNum, “0”, accountName])  
15) return masterAccounts

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| --- | --- | --- | --- |
| Statement | Function Input | Test | Input |
| 1 | [1234567, 1337, Garett Douglas MacGowan], 1234567, Areege Chaudhary | T1 | [1234567, 1337, Garett Douglas MacGowan], 1234567, Areege Chaudhary |
| 2 | [1234567, 1337, Garett Douglas MacGowan], 1234567, Areege Chaudhary |  |  |
| 3 | [1234567, 1337, Garett Douglas MacGowan], 1234567, Areege Chaudhary |  |  |
| 4 | [1234567, 1337, Garett Douglas MacGowan], 1234567, Areege Chaudhary |  |  |
| 5 | [1234567, 1337, Garett Douglas MacGowan], 1234567, Areege Chaudhary |  |  |
| 6 | [], 1212121, Areege Chaudhary | T2 | [], 1212121, Areege Chaudhary |
| 7 | [], 1212121, Areege Chaudhary |  |  |
| 8 | [], 1212121, Areege Chaudhary |  |  |
| 9 | [1234567, 1337, Garett Douglas MacGowan], 1212121, Areege Chaudhary | T3 | [1234567, 1337, Garett Douglas MacGowan], 1212121, Areege Chaudhary |
| 10 | [1234567, 1337, Garett Douglas MacGowan], 1212121, Areege Chaudhary |  |  |
| 11 | [1234567, 1337, Garett Douglas MacGowan], 1212121, Areege Chaudhary |  |  |
| 12 | [1234567, 1337, Garett Douglas MacGowan], 1212121, Areege Chaudhary |  |  |
| 13 | [1212121, 1337, Garett Douglas MacGowan], 1234567, Areege Chaudhary | T4 | [1212121, 1337, Garett Douglas MacGowan], 1234567, Areege Chaudhary |
| 14 | [1212121, 1337, Garett Douglas MacGowan], 1234567, Areege Chaudhary |  |  |
| 15 | [1212121, 1337, Garett Douglas MacGowan], 1234567, Areege Chaudhary |  |  |

**T1:**Covers checking if the new account number already exists, given a non-empty master accounts list.Actual Test Input from Transaction Summary File (assumes function inputs from above)  
NEW 1234567 000 0000000 Areege Chaudhary

**T2:**Covers adding a new account to the master accounts list, given an empty master accounts list.Actual Test Input from Transaction Summary File (assumes function inputs from above)  
NEW 1212121 000 0000000 Areege Chaudhary

**T3:**Covers adding a new account in ascending order to the master accounts list, given that the new account number **is not** the largest value account number in the master accounts list.Actual Test Input from Transaction Summary File (assumes function inputs from above)  
NEW 1212121 000 0000000 Areege Chaudhary

**T4:**Covers adding a new account in ascending order to the master accounts list, given that the new account number **is** the largest value account number in the master accounts list.Actual Test Input from Transaction Summary File (assumes function inputs from above)NEW 1234567 000 0000000 Areege Chaudhary

**TEST REPORT:**

|  |  |
| --- | --- |
| **T1** | Failed in writeMasterAccounts stage: index error due to formatting requirement of masterAccounts.txt **FIXED.**  **PASSED.** |
| **T2** | **PASSED.** |
| **T3** | **PASSED.** |
| **T4** | **PASSED.** |

**Decision Coverage:**

**Code to Analyze:**

def withdrawHandler(masterAccounts, accountNum, amount):  
 for index in range(0, len(masterAccounts)):  
1) if (masterAccounts[index][0] == accountNum):  
2) if (int(masterAccounts[index][1]) – int(amount) < 0):  
 print(“Attempted to withdraw more than is available from   
 account ” + accountNum + “.”)  
 return masterAccounts  
 else:  
 masterAccounts[index][1] = str(int(masterAccounts[index][1]) – int(amount))  
 return masterAccounts  
 print(“Account number ” + accountNum + “was not found.”)  
 return masterAccounts

|  |  |  |  |
| --- | --- | --- | --- |
| Decision | Function Input | Test | Input |
| 1: true | [1234567, 1337, Garett MacGowan], 1234567, 10 | T1 | [1234567, 1337, Garett MacGowan], 1234567, 10 |
| 1: false | [1234567, 1337, Garett MacGowan], 1234566, 10 | T2 | [1234567, 1337, Garett MacGowan], 1234566, 10 |
| 2: true | [1234567, 9, Garett MacGowan], 1234567, 10 | T3 | [1234567, 9, Garett MacGowan], 1234567, 10 |
| 2: false | [1234567, 1337, Garett MacGowan], 1234567, 10 | T1 | **Read T1 Input above** |

**T1:** Covers checking if the account requested to withdraw from is an existing account, and withdraws if T2 is false.  
Actual Test Input from Transaction Summary File (assumes function inputs from above)  
WDR 1234567 10 0000000 \*\*\*

**T2:** Covers checking if the account requested to withdraw from does not exist.  
Actual Test Input from Transaction Summary File (assumes function inputs from above)  
WDR 1234566 10 0000000 \*\*\*

**T3:** Covers checking if the account requested to withdraw from will enter a negative balance after withdrawing the requested funds.  
Actual Test Input from Transaction Summary File (assumes function inputs from above)  
WDR 1234567 10 0000000 \*\*\*

**TEST REPORT:**

|  |  |
| --- | --- |
| **T1** | **PASSED** |
| **T2** | **PASSED** |
| **T3** | **PASSED** |

**Hours spent:**Areege Chaudhary: 3  
Garett MacGowan: 3  
Both of us worked together on the same content, at the same time. (Pair programming)