CISC / CMPE 327 - Fall 2019

Course Project Assignment #5 - Back Office Unit Testing

In this assignment, you will practice (partial) white box testing of the Back Office you programmed in assignment #4.

You are to create two separate sets of white box unit tests, one for the method or section of code that handles all account creation transactions, and one for the method or section of code that handles all withdraw transactions.

For each of these two methods or sections of code,

(i) choose any systematic white box test method to use from the list given below - but you must choose a different method for each of the two kinds of transaction

(ii) analyze the code according to the system of the test method you choose and create a table of cases to be tested

(iii) create a set of tests (transaction inputs) to cover each of the test cases you have identified in the table

(iv) run the test cases on your Back Office

(v) make a table of the failures uncovered by your tests (if any)

Systematic white box unit test methods you may choose from are:

statement coverage testing, basic block testing, decision coverage testing, path testing, white box input partition testing, white box output partition testing

What to Hand In

In this assignment, you will hand in a report for each of your two test sets. Each report should include:

(1) A source listing identifying the method or code section(s) you are testing.

(2) Your analysis of the test cases necessary to cover it according to the test method you have chosen.
Be sure to specify which test method you are using, and to relate the test cases to the parts of the code that give rise to them. Use a table to report the test cases.

(3) A listing of actual test inputs (transactions from the Merged Transaction Summary File) to cover each test case. Be sure to relate your test inputs to the test cases they cover.

(4) A test report reporting the results of the test runs of your Back Office for each test, including any failures found.

How to Hand In

Assignments should be handed in as a PDF document, plus a .zip archive of the project, in onQ by 10pm on the due date. **Please** ensure that the PDF includes everything listed above. Some elements, such as parts of your Back Office code, will be duplicated in the PDF and the .zip archive. This is intentional: the TAs should, in most cases, be able to mark your assignment based only on the PDF file.

If you have some information in (for example) Excel spreadsheets, **please** include them in the PDF (you can also leave them in your .zip archive, but we want to see everything directly relevant to the marking scheme in one place!).

Be sure to indicate clearly your team name and all member names!

NEW: Also include, in the PDF **or** in a comment in your onQ submission, a **brief** note describing, **for each team member:**

1. estimated hours spent on this assignment by that team member

2. what aspects of the assignment each team member was involved in

How Much To Do

It is not necessary to fully test all aspects of your Back End for this assignment. Fix only problems that you find while running the tests for the "create" and "withdraw" transactions required by the assignment—even if the problems are in other parts of the code. We will be testing for any remaining problems in the final phase of the project, assignment 6.

Assignment #5 Marking Scheme

For EACH of the two sections (account creation, withdrawal):

Identification of Code Sections	1 mark
Analysis of Test Cases (different white box method for each) • analysis/partitioning based on method • completeness of cases based on criterion	2 marks
Creation of Test Inputs for Test Cases	1 mark
Test Report • table of results • identification of failures, if any	1 mark
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Total each section	5 marks
x 2 sections	10 marks