Instructions on how to run the program and Script

Note: WSL or an Ubuntu distribution is needed to run the program and script.

For Code:

In the Code Directory open terminal and enter the following command

g++ -o front\_end.exe main.cpp menus.cpp user\_file\_process.cpp constants.cpp games\_file\_process.cpp utils.cpp transactions.cpp

To run the Script:

In the test\_script open terminal and enter the following command

chmod +x ./test\_script.sh

dos2unix test\_script.sh

./test\_script.sh

All Tests are in the Tests directory.

The results of each tests are stored in the differences directory in each of the respective test folders.

There is also a test\_summary directory that displays the summary of all tests. There will be 2 files, 1 comparing the expected vs actual outputs and the other one compares the expected vs actual daily transaction file.

Summary: Running tests on different systems may yield apparent differences in expected and actual results due to variations in character storage and comparison by the compiler. However, upon closer examination of each test case, it has been confirmed that the outputs and log files are identical. Therefore, the apparent discrepancies are likely caused by differences in character representation and not actual variations in the tested functionality.

**Failure Logs:**

**General Test Cases:**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test name/ Number | What was being tested | Nature of Failure | What was error in the code | Actions taken to fix |
| All Tests | All Tests | Input files have wrong inputs due to change in menu system | Wrong inputs | Changed inputs to follow the new menu system |
| All the Tests | Checking that the output bto from the actual and expected folders matched | The bto files from the expected folder have different spacing | Error in the format of the outputs from the  actual bto files | Used the spacing convection from the actual bto test |
| All tests | All tests |  | The game name was not being converted to lower case and being passed in the same form the user types it in (user can enter it in all caps, some capital case, some lower case, etc). So the game name was not being standardized before being sent to the get\_game\_price function. | Converted the game name to all lower case (In the get\_game\_price function, the game names are also converted to lower case). Now, both strings being compares are lower case, so the game name will be found |

**Login**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test name/ Number | What was being tested | Nature of Failure | What was error in the code | Actions taken to fix |
| All login Tests | All login Tests | Formatting of actual bto files are from expected bto | No error in code, but there are spacing differences when comparing the files | Fixed the format for expected bto files |
| All login Tests | All login Tests | Formatting issue with the daily transaction file, there is an extra end line added in the expected file | Error in format from the expected daily transaction file | Fixed the format expected daily transaction files |
| All logout Tests | All logout Tests | Formatting of actual bto files are from expected bto | No error in code, but there are spacing differences when comparing the files | Fixed the format for expected bto files |
| All logout Tests | All logout Tests | Formatting issue with the daily transaction file, there is an extra end line added in the expected file | Error in format from the expected daily transaction file | Fixed the format expected daily transaction files |

**Sell**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test name/ Number | What was being tested | Nature of Failure | What was error in the code | Actions taken to fix |
| All Sell Tests | All Sell Tests | Formatting of actual bto files are from expected bto | No error in code, but there are spacing differences when comparing the files | Fixed the format for expected bto files |
| All Sell Tests | All Sell Tests | Formatting issue with the daily transaction file, there is an extra end line added in the expected file | Error in format from the expected daily transaction file | Fixed the format expected daily transaction files |
| Sell6 | Test Admin account cannot list Game to be sold for under $0 | Daily transaction file listed price with negative price | Program allowed for game to sold for negative price | Modified code to prevents users from listing games for under $0 |
| Sell8 | Test Admin cannot list Game for sale if string entered is entered for price | Daily transaction file listed price with negative price | Program allowed for game to sold if a letter/ string entered as price | Modified code to check that listing prices are numbers. |
| Sell22 | Test game cannot not be bought in the same session that it is listed in (account Type Admin) | input file was not configured Properly | Error in the input file | Changed input file to execute the appropriate test case |
| Sell23 | Test game cannot not be bought in the same session that it is listed in (Full standard) | Input file was not configured Properly | Error in the input file | Changed input file to execute the appropriate test case |
| Sell13 | Test Full-Standard account cannot list Game to be sold for under $0 | Daily transaction file listed price with negative price | Program allowed for game to sold for negative price | Modified code to t prevents users from listing games for under $0 |
| Sell18 | Test Sell-Standard account cannot list Game to be sold for under $0 | Daily transaction file listed price with negative price | Program allowed for game to sold for negative price | Modified code to t prevents users from listing games for under $0 |
| Sell1 | Test Admin account can list game for Sell | Wrong price was entered in the inp file | Error was in the input file | Fixed and put the proper input for the input file |

**Refund**

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| --- | --- | --- | --- | --- |
| Test name/ Number | What was being tested | Nature of Failure | What was error in the code | Actions taken to fix |
| All refund Tests | All refund Tests | Formatting of actual bto files are from expected bto | No error in code, but there are spacing differences when comparing the files | Fixed the format for expected bto files |
| All refund Tests | All refund Tests | Formatting issue with the daily transaction file, there is an extra end line added in the expected file | Error in format from the expected daily transaction file | Fixed the format expected daily transaction files |

**Create**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Test name/ Number | What was being tested | Nature of Failure | What was error in the code | Actions taken to fix |
| Create 9,10,11,12 | Testing to check that an admin,full,buy,sell user that already exists can be added | Kept getting infinite loop because it wasn’t able to exit properly. When typing -1 would not go back to main menu | Timeout error | Code error so it was padding the username before checking the menu option so the condition would never be met as the size of the variables would be different |
| Create 13,14,15,16 | Testing to check if can set a credit amount for a new admin, full, buy ,sell users greater than 999999 | When I was trying with a credit amount of 1000000 it was still successfully create a user which made no sense cause the limit was 999999 | Unanticipated error | I had originally set the credit amount to 999999.99 so changed it to 999999.00. Float types can cause precision errors so changed variables to double as double are stored as 64 bits on computer while float’s store as 32 |

**Delete**

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| --- | --- | --- | --- | --- |
| Test name/ Number | What was being tested | Nature of Failure | What was error in the code | Actions taken to fix |
| delete  13,14,15,16 | Testing to see that when the admin,full,sell,buy user is removed it is not done in the front end code as this will be done in the backend | It was removing the user in the front end code | Logic error | Made changed in the code so that user was not removed in front end code and made sure to update daily transactions properly so user is updated then |

**Buy**

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| --- | --- | --- | --- | --- |
| **Test name/ Number** | **What was being tested** | **Nature of Failure** | **What was error in the code** | **Actions taken to fix** |
| All buy tests | All buy tests | Formatting of actual bto files are from expected bto | No error in code, but there are spacing differences when comparing the files | Fixed the format for expected bto files |
| buy34 | Test Buy-Standard cannot buy a game they already own in their collection | Incorrect game name for. Fifa needed to be changed to a game that buy1 owns so that buy is unable to buy it. | Wrong game owner for game in the inputs file | Replaced game in input file from Fifa to admingame1 |
| buy38 | Test Admin cannot buy a game that they are selling | Games collection file had buy1 as owner, but should have had admin1 as owner. As a result, admin was able to buy Fifa when they should not have been allowed. | Wrong game owner for Fifa in the games collection file | Replaced owner of Fifa from buy1 to admin1 |

**Add Credit**

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| --- | --- | --- | --- | --- |
| Test name/ Number | What was being tested | Nature of Failure | What was error in the code | Actions taken to fix |
| Add\_Credit5 | Testing to see that code does not give the user the ability to add more then $1000 for there add\_credit | It was giving the user the ability to add $1100 for an account | Logic error | in my code I was comparing the user balance to be less than the maximum add credit so changed it to the potential new credit to be compared with the maximum add credits |
| Add\_Credi22 | Testing to check if can add credit amount to user that doesn’t exist | Kept getting infinite loop because it wasn’t able to exit properly. When typing -1 would not go back to main menu | Timeout error | Code error so it was padding the username before checking the menu option so the condition would never be met as the size of the variables would be different |

**List All available Games**

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| --- | --- | --- | --- | --- |
| Test name/ Number | What was being tested | Nature of Failure | What was error in the code | Actions taken to fix |
| Available\_games2 | Checking the code to make sure that all the games are shown for available\_games2. | Missing Expected files | Certain folders were named incorrectly | The input and output folders were named incorrectly so I fixed that and named it inputs and outputs |
| Available\_games6 | Testing to check if the functionality of available\_games6 is correct | Missing expected files | Input and Output folders were named incorrectly | Changed the incorrect folder names to correct ones; inputs and outputs |

**List All Users**

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| --- | --- | --- | --- | --- |
| Test name/ Number | What was being tested | Nature of Failure | What was error in the code | Actions taken to fix |
| all\_user2 | Checking the functionality of all\_user2 is working properly | It wasn’t recognising the Log\_Files within the all\_user2 folder. | The error shown is that they couldn’t find the daily\_transactions.etf file in the expected path. | The Log\_Files within the all\_user2 folder wasn’t named properly. The expected name for the file was log\_files so I changed it to that |
| all\_user6 | Test to make sure that the all\_user6 displays all the users | Duplicate folder | Within the folder there was two inputs folder | I removed the extra inputs file to make sure that the code works properly |

**Test Results:**

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| --- | --- |
|  | **Test passed** |
|  | **Test Failed** |

|  |  |  |
| --- | --- | --- |
| Test Name | Expected Output and Actual Output Match | Expected Daily Transaction File and Actual Transaction File Match |
| Login1 |  |  |
| Login2 |  |  |
| Login3 |  |  |
| Login4 |  |  |
| Login5 |  |  |
| Login6 |  |  |
| Login7 |  |  |
| Login8 |  |  |
| Login9 |  |  |
| login10 |  |  |
| Login 11 |  |  |
| Login 12 |  |  |
| Login 13 |  |  |
| Logout1 |  |  |
| Logout2 |  |  |
| Logout3 |  |  |
| Logout4 |  |  |
| logout5 |  |  |
| Logout6 |  |  |
| Logout7 |  |  |
| Logout8 |  |  |
| Logout9 |  |  |
| Sell1 |  |  |
| Sell2 |  |  |
| Sell3 |  |  |
| Sell4 |  |  |
| Sell5 |  |  |
| Sell6 |  |  |
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| Sell22 |  |  |
| Sell23 |  |  |
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| all\_user11 |  |  |
| all\_user12 |  |  |
| available\_games1 |  |  |
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| available\_games10 |  |  |

**Assumptions Made:**

Only the daily transaction file is updated in this phase, other files are not updated in this phase despite the transaction completed.

**Refund:** assuming that available credit does not change despite a refund being issued.

For example:

admin1 is logged, seller is admin1 with balance 500 and admin2 is buyer with balance 500. If a refund is used from admin1 to admin2 in the daily transaction file, it will show

**05 admin2 admin1 000010.00**

Any subsequent actions done by admin1 will still display the original available credit despite the refund being issued. The credit available is only updated once the backend is updated as per the project requirements. For example, the final transaction log for the refund will display:

**05 admin2 admin1 000010.00**

**00 admin1 AA 000500.00**

Where the available credit has not been altered from its original value in this session.

**Sell:** The same game name can be entered for sale in the same session as the new game will not be listed for sale until the back end is updated.

For example, admin1 would be able to list the same game name for sale multiple times in the same session since the list of available games since the back end is not updated.(This was confirmed during lab session)

The daily transaction file would be as followed:

**03 admingame19 admin1 010.00**

**03 admingame19 admin1 010.00**

**00 admin1 AA 000500.0**