**Project A (interaction between Program and Convert)**

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| **Test Case ID** | **Test Case Description(inputs)** | **Test Steps** | **Expected Results** | **Actual Results** |
| A1 | * invalid input for number * valid input for unit to convert from * invalid input for unit to convert to | 1. Enter “MJ” when asked for numeric value 2. Enter “s” when asked for unit to convert from 3. Enter “Billie Jean” when asked for unit to convert to | User informed that the number entry is invalid and main menu reappears | Error message returned to stating that the numeric value entry is invalid. Main menu reappears |
| A2 | * valid input for number * valid input for unit to convert from * invalid input for unit to convert to | 1. Enter “20” when asked for numeric value 2. Enter “hours” when asked for unit to convert from 3. Enter “s361” when asked for unit to convert to | Calculation is completed successfully, and message returned is:  “20 hours to s361 is 40.00000000” | Calculation completed successfully and message returned is exactly as expected |
| A3 | * valid input for number * invalid input for unit to convert from * valid input for unit to convert to | 1. Enter “1” when asked for numeric value 2. Enter “sdCard” when asked for unit to convert from 3. Enter “Days” when asked for unit to convert to | Calculation is completed successfully, and message returned is:  “1 sdCard to Days is 2.00000000” | Calculation completed successfully and message returned is exactly as expected |
| A4 | * valid input for number * valid input for unit to convert from * valid input for unit to convert to | 1. Enter “99” when asked for numeric value 2. Enter “minutes” when asked for unit to convert from 3. Enter “h” when asked for unit to convert to | Calculation is completed successfully, and message returned is:  “99 minutes to h is 198.00000000” | Calculation completed successfully and message returned is exactly as expected |

**Project B (Interaction between Convert and ModifyInput)**

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| **Test Case ID** | **Test Case Description(inputs)** | **Test Steps** | **Expected Results** | **Actual Results** |
| B1 | * invalid input for number * valid input for unit to convert from * invalid input for unit to convert to | 1. Enter “-32” when asked for numeric value 2. Enter “hours” when asked for unit to convert from 3. Enter “as a goonie” when asked for unit to convert from | User informed that the number entry is invalid and main menu reappears | Error message returned to stating that the numeric value entry is invalid. Main menu reappears |
| B2 | * valid input for number * invalid input for unit to convert from * valid input for unit to convert to | 1. Enter “19” when asked for numeric value 2. Enter “eight one” when asked for unit to convert from 3. Enter “d” when asked for unit to convert to | User informed that an invalid time unit has been entered and main menu reappears | Error message returned to stating time unit entry is invalid. Main menu reappears |
| B3 | * valid input for number * valid input for unit to convert from * invalid input for unit to convert to | 1. Enter “730” when asked for numeric value 2. Enter “days” when asked for unit to convert from 3. Enter “thriller1” | User informed that an invalid time unit has been entered and main menu reappears | Error message returned to stating time unit entry is invalid. Main menu reappears |
| B4 | * valid input for number * valid input for unit to convert from * valid input for unit to convert to | 1. Enter “2” when asked for numeric value 2. Enter “m” when asked for unit to convert from 3. Enter “Seconds” when asked for unit to convert to | Calculation is completed successfully and message returned is:  “2 m to Seconds is 20.00000000” | Calculation completed successfully and message returned is exactly as expected |

**Project C (interaction between Convert and GetMultiplier)**

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| **Test Case ID** | **Test Case Description(inputs)** | **Test Steps** | **Expected Results** | **Actual Results** |
| C1 | * valid input for number * valid input for unit to convert from * valid input for unit to convert to | 1. Enter “3” when asked for numeric value 2. Enter “s” when asked for unit to convert from 3. Enter “m” when asked for unit to convert to | Calculation is completed successfully and message returned is:  “3 s to m is 0.05000000” | Calculation completed successfully and message returned is exactly as expected |
| C2 | * valid input for number * valid input for unit to convert from * valid input for unit to convert to | 1. Enter “24” when asked for numeric value 2. Enter “H” when asked for unit to convert from 3. Enter “d” when asked for unit to convert to | Calculation is completed successfully and message returned is:  “24 H to d is 1.00000000” | Calculation completed successfully and message returned is exactly as expected |
| C3 | * valid input for number * valid input for unit to convert from * valid input for unit to convert to | 1. Enter “1” when asked for numeric value 2. Enter “Minutes” when asked for unit to convert from 3. Enter “Seconds” when asked for unit to convert to | Calculation is completed successfully and message returned is:  “1 Minutes to Seconds is 60.00000000” | Calculation completed successfully and message returned is exactly as expected |
| C4 | * valid input for number * valid input for unit to convert from * valid input for unit to convert to | 1. Enter “2” when asked for numeric value 2. Enter “days” when asked for unit to convert from 3. Enter “minutes” when asked for unit to convert to | Calculation is completed successfully and message returned is:  “2 days to minutes is 2,880.00000000” | Calculation completed successfully and message returned is exactly as expected |