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| Testfall Nr | Beschreibung | Erwartetes Resultat | Tatsächliches Resultat | Kommentar |
| 1 | User enters «1» in the console to add an income. | User is prompted to put the source of the income.  User is then asked for the amount of the income.  User is then asked to input the a date in format yyyy-mm-dd.  User is then asked to enter a category. | User is prompted to put the source of the income. |  |
| 2 | User puts “Sunrise” in the console | Its saved  User is then asked for the amount of the income. | Its saved  User is then asked for the amount of the income. |  |
| 3 | User is then asked for the amount of the income. | User is then asked for the amount of the income. | User is then asked for the amount of the income. |  |
| 4 | User inputs ninehundred | program outputs an error : Invalid amount. Please enter a number.  And menu is started again | program outputs an error : Invalid amount. Please enter a number.  And menu is started again |  |
| 5 | User repeats steps 1-3 and then input 900 for income. | Its saved and then the user is asked to input the a date in format yyyy-mm-dd. | Its saved and then the user is asked to input the a date in format yyyy-mm-dd. |  |
| 6 | User enters 2023-02-02 | Its saved and then the user is asked to enter a category. | ts saved and then the user is asked to enter a category. |  |
| 7 | User puts “work” | Its saved and the user is asked to enter a note. | Its saved and the user is asked to enter a note. |  |
| 8 | User enters “February loan” | Its saved and the menu is shown again. | Its saved and the menu is shown again. |  |
| 9 | User enters “10” | The program throws a error “Invalid option. Please try again.” And the menu is shown again. | The program throws a error “Invalid option. Please try again.” And the menu is shown again. |  |

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| 10 | User enters “six” | The program throws a error “Invalid option. Please try again.” And the menu is shown again. | The program throws a error “Invalid option. Please try again.” And the menu is shown again. |  |
| 11 | User enters “2” to add an expense. | User is asked to enter category of expense. | User is asked to enter category of expense. |  |
| 12 | User enters “rent” | The program saves it and then asks the user to enter the amount. | The program saves it and then asks the user to enter the amount. |  |
| 13 | User enters “seven hundred” | The program throws an error “Invalid amount. Please enter a number.” And then the menu is shown again. | The program throws an error “Invalid amount. Please enter a number.” And then the menu is shown again. |  |
| 14 | User repeats step 11 and 12. | The program asks the user to enter the amount. | The program asks the user to enter the amount. |  |
| 15 | User enters “700” | The program saves it and then asks the user to enter a description. | The program saves it and then asks the user to enter a description. |  |
| 16 | User enters hits enter without putting anything in the console. | The program doesn’t add a description and then asks to enter a date in the format “yyyy-mm-dd”. | The program doesn’t add a description and then asks to enter a date in the format “yyyy-mm-dd”. |  |
| 17 | User enters “2023-02-02” | The program saves it and then shows the menu again. | The program saves it and then shows the menu again. |  |
| 18 | User wants to add another expense and enters “2” to add another expense. | User is asked to enter category of expense. | User is asked to enter category of expense. |  |
| 19 | User enters “shopping new clothes” | The program saves it and then asks the user to enter the amount. | The program saves it and then asks the user to enter the amount. |  |
| 20 | User enters “50” | The program saves it and then asks the user to enter a description. | The program saves it and then asks the user to enter a description. |  |
| 21 | User enters “quite cheap month” | The program saves the description and then asks to enter a date in the format “yyyy-mm-dd”. | The program saves the description and then asks to enter a date in the format “yyyy-mm-dd |  |
| 22 | User enters “2023-02-02” | The program saves it and then shows the menu again. | The program saves it and then shows the menu again. |  |

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| 23 | User wants to see the income categories and enters “3” | Program shows the income categories: “sunrise: $900.0” and then shows the menu again. | Program shows the income categories: “sunrise: $900.0” and then shows the menu again. |  |
| 24 | User wants to see the expense categories and enters “4” | Program shows the two expenses and then shows the menu again. | Program shows the two expenses: “shopping new clothes: $50.0  rent: $700.0” and then shows the menu again. |  |
| 25 | User wants to calculate his balance and enters “5” | Program shows the total income and expenses and then shows the calculates result as balance | Program shows the total income and expenses: “shopping new clothes: $50.0  rent: $700.0” and then shows the menu again. |  |
| 26 | User wants to know how much he saved this month and enters “6”. | Program shows his total savings and then shows the menu again. | Program shows his savings: “Savings: $150.0” and then shows the menu again. |  |
| 27 | User is happy and wants to close the program so he enters the “7” | Program shows a text that the program has been closed and stops the program. | Program shows: “Program closed” in the console and stops the program. |  |

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| 1 | User enters 1 | Program asks to enter the source of income. | Program asks to enter the source of income. |  |
| 2 | User enters “money gift” | Program saves it and then asks to enter the amount. | Program saves it and then asks to enter the amount |  |
| 3 | User enters “500” | Program saves it and asks to enter the date in the format “yyyy-mm-dd”. | Program saves it and asks to enter the date in the format “yyyy-mm-dd”. |  |
| 4 | User enters “2023-01-01” | Program saves and asks to enter a category. | Program saves and asks to enter a category. |  |
| 5 | User enters “gift from parents” | Program saves it and ask to enter a note. | Program saves it and ask to enter a note. |  |
| 6 | User enters “new year gift from parents” | Program saves it and then shows the menu again. | Program saves it and then shows the menu again. |  |
| 7 | User wants to calculate his balance and enters “5” | Program shows the total income and expenses and calculates the balance and shows the menu again. | Program shows the total income and expenses and calculates the balance: “Total Income: $500.0  Balance: $500.0” and shows the menu again. |  |
| 8 | User wants to close the program and enters “7” | Program shows a text that the program has been closed and closes it. | Program shows a text that the program has been closed and closes it:  “Program closed  Process finished with exit code 0” |  |
| 9 | User is very happy | User is very happy | User is very happy |  |
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seqdiag {

Main -> Budget [label = "creates Budget object"]

Budget -> displayMenu[label = "Display the menu"];

displayMenu -> addIncome[label = "user selects option 1"];

addIncome -> Scanner [label = "user enters required Attributes"];

addIncome <-- Scanner [label = "Income object generated"]

Budget <-- addIncome [label = "returns Income object"];

displayMenu -> calculateBalance [label = "user selects option 5"];

calculateBalance -> Sytem.out.println[label = "Prints: The total income and expenses and calculates the balance: “Total Income"];

displayMenu -> Scanner[label = "User selects option 7"];

displayMenu <- Scanner[label = "Prints: Program closed and closes the program"];

displayMenu -> System.exit[label = "Program exits"];

}