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**Test Plan for Menu Processing Feature**

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| **Test #** | **Description** | **Input** | **Expected Result** | **Actual Output** | **Status (Pass/Fail)** |
| 1 | Initialize default array | 1 | New Numbers object with default size is created. |  | Pass |
| 2 | Specify max size of the array | 2\n10\n | New Numbers object with size 10 is created. |  | Pass |
| 3 | Add value to the array | 3\n5.5\n | Value 5.5 is added to the array. |  | Pass |
| 4 | Display values in the array | 4 | Display of values in the array (if any). |  | Pass |
| 5 | Calculate statistics | 5 | Display of average, min, max, max mod min, and factorialMax (if any). |  | Pass |
| 6 | Add multiple values | 6\n3\n4.5\n6.7\n8.9\n | Multiple values are added to the array. |  | Pass |
| 7 | Read values from a file | 7\nexample.txt\n | Values are read from "example.txt" file (if exists) and added to the array. |  | Pass |
| 8 | Save values to a file | 8\noutput.txt | Values from the array are saved to "output.txt" file (if there are values). |  | Pass |
| 9 | Exit the program | 9 | Program exits without errors. |  | Pass |

**Test Plan for Numbers Feature**

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| --- | --- | --- | --- | --- | --- |
| **Test #** | **Description** | **Input/Action** | **Expected Result** | **Actual Output** | **Status (Pass/Fail)** |
| 1 | Add a single value to the array | addValue(5.5) | Value 5.5 is added to the array. |  |  |
| 2 | Add multiple values to the array | addValues(3, [4.5, 6.7, 8.9]) | Multiple values are added to the array. |  |  |
| 3 | Calculate average of values | calcAverage() | Average of values in the array is calculated. |  |  |
| 4 | Find minimum and maximum values | findMinMax() | Minimum and maximum values in the array are found. |  |  |
| 5 | Calculate factorial of max value | getFactorialMax() | Factorial of the maximum integer value in the array is calculated. |  |  |
| 6 | Read values from a file | readFromFile("example.txt") | Values are read from "example.txt" file (if exists) and added to the array. |  |  |
| 7 | Save values to a file | saveToFile("output.txt") | Values from the array are saved to "output.txt" file (if there are values). |  |  |