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| **Project Name:** | | **Astronomical Processing** | | | | |
| **Test Case No** | **Test Case Name** | | **Test steps** | **Test Data** | **Expected result** | **Pass / Fail** |
| 1 | Fill Data Button | | Click fill data button | - | 24 random ints to fill array | Pass |
| 2 | Bubble Sort Button | | Click bubble sort to sort array data | 24 random ints | Array to sort and display in ascending order | Pass |
| 3 | Binary Search of included number | | Search for a number that is included in array | 24 random ints | Show found message | Pass |
| 4 | Binary Search of non included number | | Search for a number that is not included in array | 24 random ints | Show not found messages | Pass |
| 5 | Binary search out of range high | | Search for a number that is above allowed range | - | Show outside range message | Pass |
| 6 | Binary search out of range low | | Search for a number that is below allowed range | - | Show outside range message | Pass |
| 7 | Delete Selected Item | | Choose an item and click delete button | 24 random ints | Number should delete | Pass |
| 8 | Add typed item | | Type any num from 10-99 and click add | Less than 24 ints | Number should add | Pass |
| 9 | Delete non selected item | | Click delete button with nothing selected | - | No task selected popup | Pass |
| 10 | Add non typed item | | Click add without typing any ints | - | Textbox empty popup | Pass |
| 11 | Add item while array is capped at 24 ints | | Add item after filling random data | 24 random ints | Array is already full popup | Pass |
| 12 | Edit selected item | | Select item, type number and click edit | 24 random ints | Number to be edited | Pass |
| 13 | Edit without selecting item | | Random generate numbers and click edit | 24 random ints | No selected text popup | Pass |
| 14 | Edit with number above range | | Select number, edit with number above range | 24 random ints | Outside range popup | Pass |
| 15 | Edit with number below range | | Select Number, edit with number below range | 24 random ints | Outside range popup | Pass |
| 16 | Ensure data stored in ints | | Add a number with a decimal | - | Unable to input decimals | Pass |
| 17 | Ensure sequential search works | | Generate numbers then search for one of the numbers | 24 random ints | Popup saying number found | Pass |
| 18 | Sequential search with less than 24 nums | | Test seq search button with less than 24 numbers | <24 ints | Should still be found | Pass |
| 19 | Test each new button with no data | | Click each button with no data in list to ensure error trapping | - | Error warnings | Pass |
| 20 | Test range button with 1 num | | Add one int to data and test range to ensure error trapping | 1 int | Error warning saying no data | Pass |
| 21 | Test range button | | Add between 2-24 ints and test range button | 2-24 ints | Successful range number shown | Pass |
| 22 | Test Mode button with a duplicate number | | Add random ints ensuring there is one duplicate set of numbers | 24 ints | Successfully displays mode | Pass |
| 23 | Test Mode button with 2 duplicate numbers | | Add random ints ensuring there is 2 duplicate numbers | 24 ints | Successfully displays both modes | Pass |
| 24 | Test Mode button with 3 duplicate numbers | | Add random ints ensuring here is 3 duplicate numbers | 24 ints | Successfully displays all 3 modes | Pass |
| 25 | Test mean button | | Add 24 random ints and click mean button | 24 ints | Displays correct mean | Pass |
| 26 | Test mean button with less than 24 ints | | Add less than 24 ints and test mean button | < 24 ints | Displays correct mean | Pass |
| 27 | Test mid extreme button | | Add in 24 random ints and click button | 24 ints | Displays correct mid extreme | Pass |
| 28 | Test mid extreme with only 1 int | | Add one int and click button | 1 int | Shows error stating no data | Pass |