Adding Elements (Table 1)

|  |  |  |
| --- | --- | --- |
|  | Number of Elements | Time |
| ArrayList | 380,000,000 | 12127ms |
| LinkedList | 100,000,000 | 12551ms |
| Array | 380,000,000 | 3949ms |

Calculating Sum of the Elements (Table 2)

|  |  |  |
| --- | --- | --- |
|  | Number of Elements | Time (Average of 10 times) |
| ArrayList | 380,000 | 8643ms |
| LinkedList | 380,000 | 8559ms |
| Array | 380,000 | 8533ms |

Conclusion

For adding elements to ArrayList, LinkedList and java array, the results showed Using LinkedList took the longest, and using Array is the fastest. For calculating the sum of all elements, ArrayList, LinkedList and java array showed similar performance.

For adding elements, when designers know the number of elements, they should use Array to store data, and it is the fastest way. Otherwise, they should use Arraylist to add elements. ArrayList, LinkedList and java array are good objects to choose when calling every element and doing calculations. Combining these two parts, using Array is the best choice when the size is known or ArrayList when the size is unknown.