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**DISCUSSION:**

After finding all of the results, as shown in the table, they appear to line up very closely with what the estimated values should be. As shown in the values below, when the array size is increased by a factor of 10, the number of operations increases by 100. The constant factor is shown to be ¼.

**TABLE:**

| **Array Size (n)** | **Comparison (Best Case)**  **All 0(1)** | **Comparison (Worst Case)** | **Comparison (Random Case)** | **Theory Average Case** | **Theory Worst Case** |
| --- | --- | --- | --- | --- | --- |
| **32** | 32 | 496 | 207 | 248 | 496 |
| **100** | 100 | 4950 | 2244 | 2475 | 4950 |
| **1000** | 1000 | 499500 | 240851 | 250000 | 499500 |
| **10000** | 10000 | 49995000 | 24962822 | 24997500 | 49995000 |