|  |  |  |  |
| --- | --- | --- | --- |
| **Bubble sort time complexity** | | | |
| **n** | **n²** | **Exec Time (sec)** | **c = Time / n2** |
| 1,000 | 1,000,000 | 0.011 | 1.1 𝗑 10⁻⁸ |
| 2,000 | 4,000,000 | 0.026 | 6.5 𝗑 10⁻⁹ |
| 3,000 | 9,000,000 | 0.048 | 5.333 𝗑 10⁻⁹ |
| 4,000 | 16,000,000 | 0.096 | 6 𝗑 10⁻⁹ |
| 5,000 | 25,000,000 | 0.149 | 5.96 𝗑 10⁻⁹ |
| 6,000 | 36,000,000 | 0.199 | 5.528 𝗑 10⁻⁹ |
| 7,000 | 49,000,000 | 0.257 | 5.245 𝗑 10⁻⁹ |
| 8,000 | 64,000,000 | 0.344 | 5.375 𝗑 10⁻⁹ |
| 9,000 | 81,000,000 | 0.418 | 5.16 𝗑 10⁻⁹ |
| 10,000 | 100,000,000 | 0.528 | 5.28 𝗑 10⁻⁹ |

|  |  |  |  |
| --- | --- | --- | --- |
| **Selection sort time complexity** | | | |
| **n** | **n²** | **Exec Time (sec)** | **c = Time / n2** |
| 1,000 | 1,000,000 | 0.011 | 1.1 𝗑 10⁻⁸ |
| 2,000 | 4,000,000 | 0.029 | 7.25 𝗑 10⁻⁹ |
| 3,000 | 9,000,000 | 0.066 | 7.33 𝗑 10⁻⁹ |
| 4,000 | 16,000,000 | 0.103 | 6.44 𝗑 10⁻⁹ |
| 5,000 | 25,000,000 | 0.164 | 6.56 𝗑 10⁻⁹ |
| 6,000 | 36,000,000 | 0.245 | 6.8 𝗑 10⁻⁹ |
| 7,000 | 49,000,000 | 0.300 | 6.12 𝗑 10⁻⁹ |
| 8,000 | 64,000,000 | 0.382 | 5.97 𝗑 10⁻⁹ |
| 9,000 | 81,000,000 | 0.481 | 5.94 𝗑 10⁻⁹ |
| 10,000 | 100,000,000 | 0.583 | 5.83 𝗑 10⁻⁹ |

|  |  |  |  |
| --- | --- | --- | --- |
| **Insertion sort time complexity** | | | |
| **n** | **n²** | **Exec Time (sec)** | **c = Time / n2** |
| 1,000 | 1,000,000 | 0.006 | 6 𝗑 10⁻⁹ |
| 2,000 | 4,000,000 | 0.014 | 3.5 𝗑 10⁻⁹ |
| 3,000 | 9,000,000 | 0.025 | 2.78 𝗑 10⁻⁹ |
| 4,000 | 16,000,000 | 0.038 | 2.375 𝗑 10⁻⁹ |
| 5,000 | 25,000,000 | 0.051 | 2.04 𝗑 10⁻⁹ |
| 6,000 | 36,000,000 | 0.072 | 2 𝗑 10⁻⁹ |
| 7,000 | 49,000,000 | 0.095 | 1.94 𝗑 10⁻⁹ |
| 8,000 | 64,000,000 | 0.115 | 1.79 𝗑 10⁻⁹ |
| 9,000 | 81,000,000 | 0.154 | 1.901 𝗑 10⁻⁹ |
| 10,000 | 100,000,000 | 0.196 | 1.96 𝗑 10⁻⁹ |