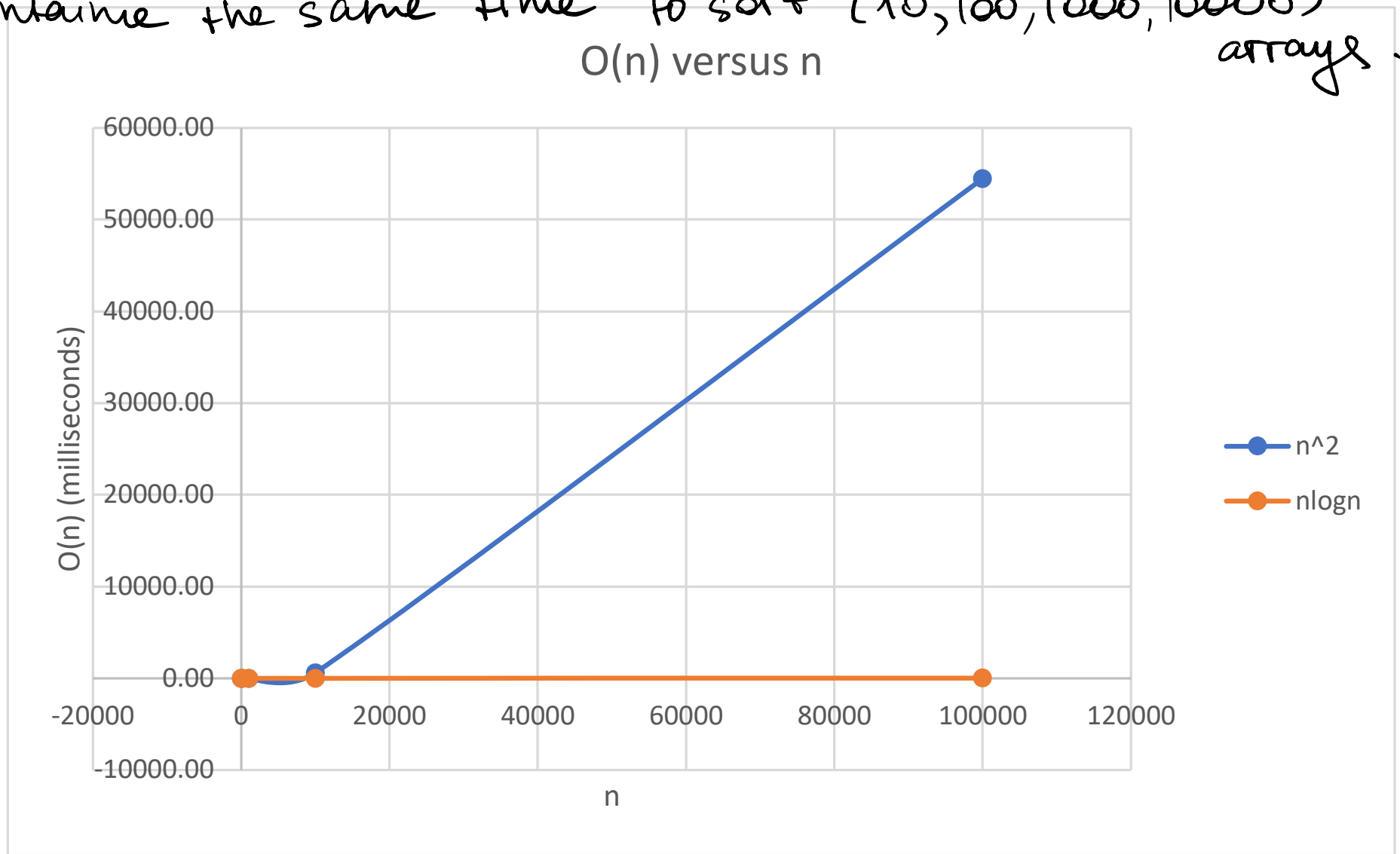


As the number of element increases, the  $O(n^2)$  algorithm takes longer to sort an array, while using  $O(n \log n)$  sorting algorithm, maintain the same time to sort (10, 100, 1000, 10000) arrays.



the  $O(n^2)$  algorithm increases quadratically, while  $O(n \log n)$  increases logarithmically with number of elements.