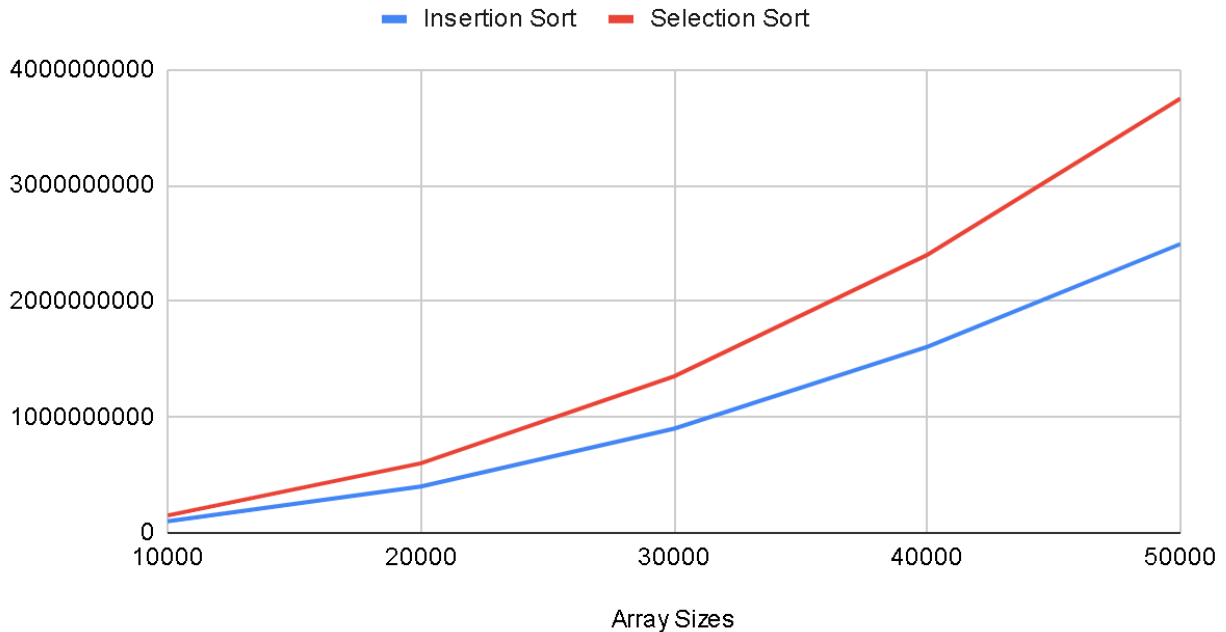


## Random



In the random case, Insertion Sort is more efficient than Selection Sort. We can see this since the red curve is always above the blue curve. This makes sense since in each step in the random case, insertion sort only checks the current number with the previous ones and shifts it over if it is larger until it finds a number less than or equal to it whereas selection sort still needs to check all the numbers to the right of the current number to find the next smallest value. In general, since the Insertion Sort does not check all the numbers (it only checks until it needs to stop), it will still be faster than the Selection Sort which checks all the values no matter what. In the random case, Insertion Sort does not perform as well as in the increasing case, but not as poorly as in the decreasing case. The random case can be seen as an “average” of the Insertion Sort values of the increasing and decreasing cases.