



Bubble, selection and insertion all have big O of  $n^2$  while quick is closer to  $n \log n$ . Overall the complexity seems to be related to time but is not the only factor. Big O notation is the most possible of iterations in worse case scenario. There appears to be other factors when these runs. There is a small variation caused by which random numbers are generated. Big O overall seems to be wise to keep in mind, but it is not the only factor. Anything  $n \log n$  is fast enough to run most algorithms unless the data type is huge. At small data types it doesn't matter much but things with bigger Big O have time that exponentially goes up with the data set.