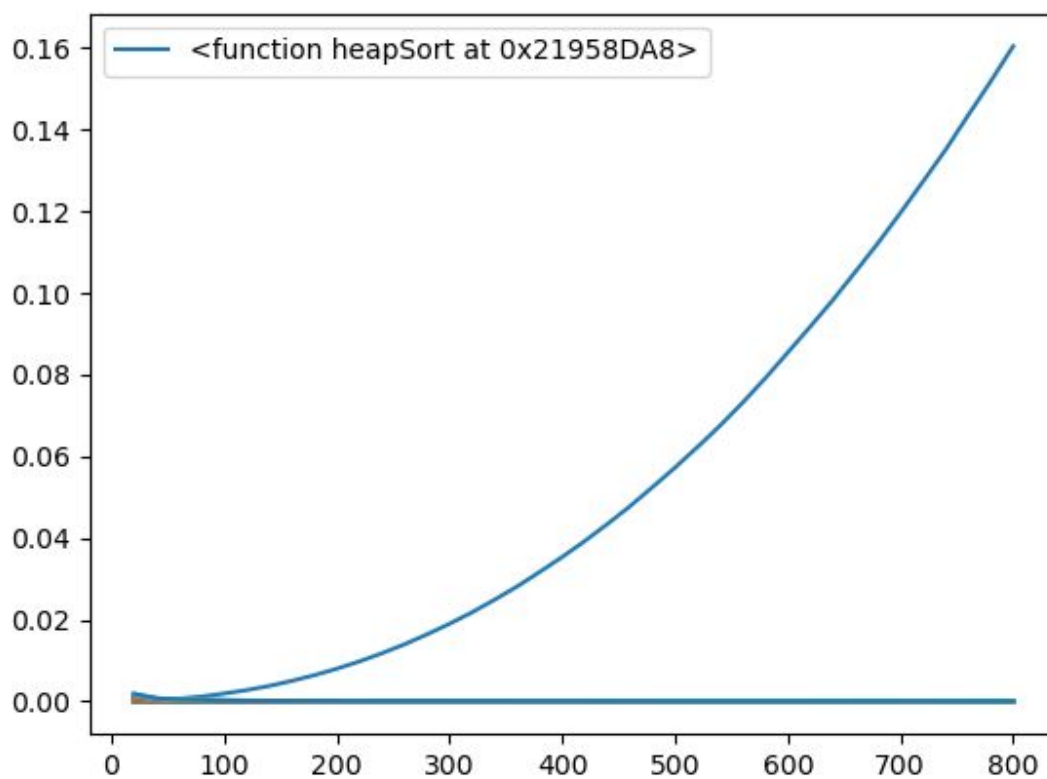


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We wish to demonstrate that the average run time of Heap sort is $O(n \log n)$.
We achieved this by simply graphing the run times of the algorithm in question divided by $n \log n$ -



Since the lines we found were of constant slope (ie straight) , this proves that heapsort runs in some constant multiple of $n \log n$ time showing that our theoretical result was indeed correct.