

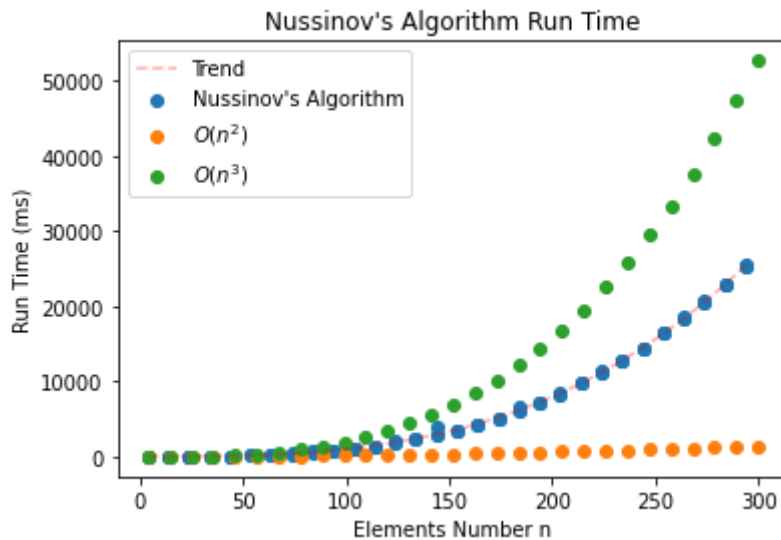
CSE 417: Homework 8

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Problem 2:



The graph above shows the number of RNA sequences versus run time. In the timing test, I used the Nussinov's algorithm includes traceback. Because the runtime of Nussinov's algorithm is $O(n^3)$, and the runtime of traceback is $O(n^2)$, the overall time is still $\Theta(n^3)$

I've also drawn lines for runtime $O(n^2)$ and $O(n^4)$ in the plot. It can be seen that the running time of Nussinov's algorithm is consistent with the analysis, and the trend is between the line of $O(n^2)$ and $O(n^4)$.