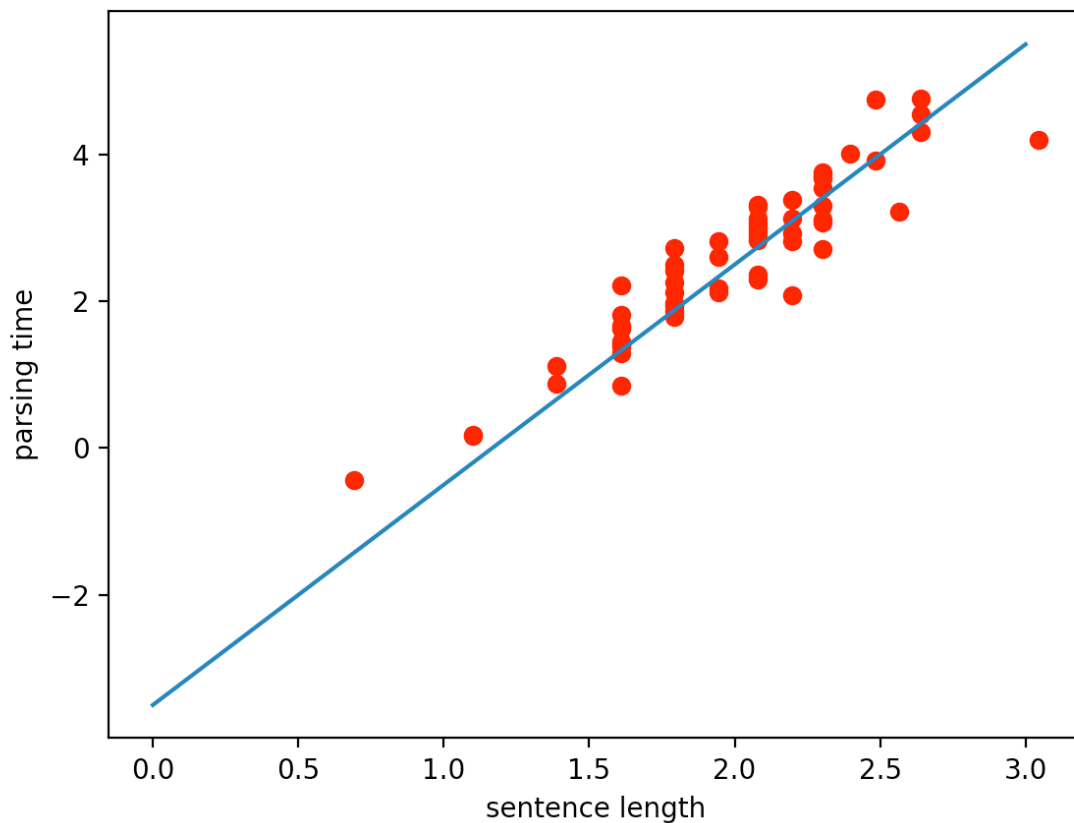# CSCI 544 HW4

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3:

from the plot, we can easily tell the approximation of all red dots are almost equals to the blue function which is y = 3x-k, (the gradient is very close to 3). Since we use log-log scale, so the k is very close to 3.

The reason is because Viterbi CKY algorithm first need to go through all the cells in the chart, which is a n*m or say n^2, and then for each cell, the algorithm need to go through all the rules to check if there is a possible route to bottom up, so the time complexity now is n^2*n which is n^3.