INF 503 - Homework 6

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My homework 5 & 6 are bundled into one executable.
To build the homework executable:

`make`

Problem 1A

`srun --mem=5000 ./homework5 6A 1000000 covid.txt`

- What is the size of the tree (# of nodes)?

Suffix tree contains 867,318 nodes

- Generate 5K, 50K, and 100K random 36-mers from the SARS-COV2 genome sequence and use them to search the suffix tree. How many of your 36-mers had a match? Does it make sense? Explain why.

Table size	Matches
5,000	50,00
50,000	50,000
100,000	100,000

Every fragment is found in the tree because we put every possible fragment in the tree.

- How long did it take (big O notation estimate)?

O(N) where N is the key size, 0.145654s on my machine.