

Starpoint.pdf

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* File name: Starpoint.pdf

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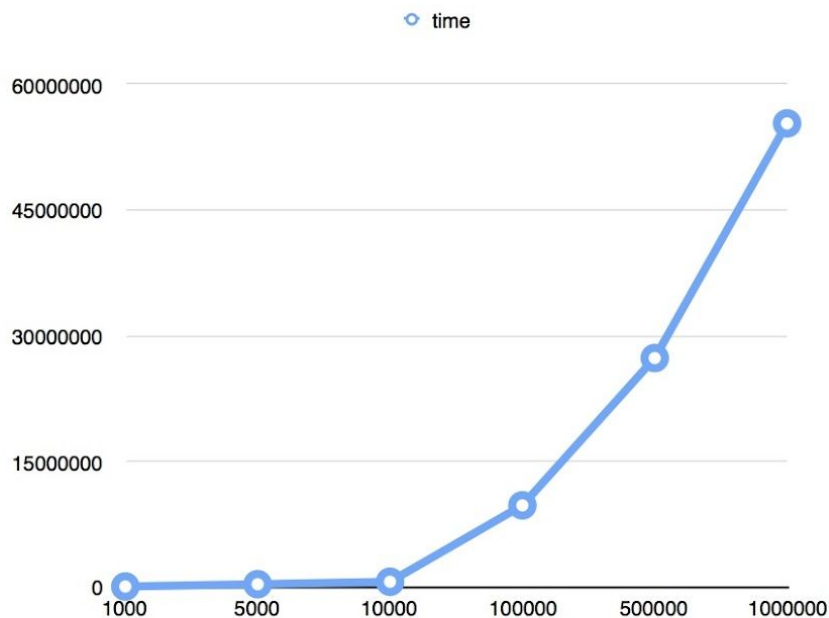
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Question a:

The first difference between the Aho–Corasick algorithm and Multiway-trie is the run time of find function. For the Aho-Corasick algorithm, it will take $O(N)$, because it will use the suffix and dict_suffix to get to the node which occurred, thus it will take much less time to traverse and to find the character. For multiway-trie, it will take $O(N \cdot \log N)$, because for each character it takes $\log N$ steps to traverse the trie to find whether in the trie, thus $O(N \cdot \log N)$. Moreover, for multiway-trie, it will start the traverse and find again at each character, but for the Aho-Corasick algorithm it will only traverse single time, as it constantly take a character and find in the tree using links, such as suffix and dict_suffix.

Question b:



The scale is $f(N)$

Question c:

It is an automaton, for a given line of strings, it can be used to detect the components of the line, and thus, in real time it is similar to a compilation system. Thus it can be used in a compiler.