This code is a DFA search algorithm over the language of G, A, T, and C. It will create a random string n long and a second random string m long where m ≪ n. It will then use pattern matching to find matching strings.

The algorithm is consistent with the run time complexity of O(n + m3) where n is the length of the string to be searched and m is the length of the search string. As the text to be searched doubled and the search string length remained constant the average it time it took to complete was slightly less than twice as much.