FIT3155: Lab questions for week 2

Objectives: This prac allows you to explore the concepts learnt in week 1

1. Implement Gusfield's Z-algorithm for exact pattern matching.
2. Implement a naïve exact pattern matching algorithm – only for comparison purposes.
3. Write a program to generate a random string of any stated length n from a binary alphabet $\{H, T\}$, with the probability of character H being p (and hence probability of T is $1 - p$). Your program should take n and p as arguments to write out a random string to a file
4. Test the wall clock times of your pattern matching algorithm implementation above, on large random strings (say $> 1,000,000$ characters) together with randomly generated short patterns (say 10 characters). Vary n and p to empirically test the effect on the observed runtimes.
5. If you have finished this set, consider going through your tute sheet and implement some of the algorithmic exercises into practice.
6. OPTIONAL: If you have finished even the tute sheet, consider going through the Boyer-Moore algorithm slides (that will be explained at the start of week02 lecture). These slides are already included in the week01 lecture slides on moodle. Explore if you can understand the presented algorithm, which will be good pre-reading before the next lecture.

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-=0=-
 END
-=0=-
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