58093 String Processing Algorithms (Autumn 2016)
Exercises 7 (Tuesday, December 13)

1. Let $T = \texttt{lallilla\$}$.
   (a) Give the suffix tree of T including suffix links.
   (b) Give the suffix array of T together with the LCP array.
2. The reverse of a string $S[0..m)$ is the string $S^R = S[m-1]S[m-2]..S[0]$. Describe an algorithm for finding the longest factor S of $T[0..n)$ such that the reverse S^R is a factor of T too. The algorithm should work in linear time in the constant alphabet model.
3. What is the number of distinct factors in the string `abracadabra`?
4. Give a linear time algorithm for computing the matching statistics of S with respect to T from the generalized suffix *array* of S and T and the associated LCP array (without constructing the suffix tree).
5. Let $L = \texttt{rttrraa\$ii}$ be the Burrows–Wheeler transform of a text T.
   (a) What is T?
   (b) Simulate backward search on T for the pattern $P = \texttt{ari}$.

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