1. Given a string. Find all d such that $p[i + d] = p[i]$ for all i. $O(n)$.

2. Given a string. Find all of its prefixes, which are palindromes. $O(n)$.

3. Given a string. For each of its prefixes, count how many times it appears in the string as a substring. $O(n)$.

4. Two sequences of numbers are said to be equivalent if one can be obtained from the other by adding one number to all elements (For example, the sequences $(3, 6, 4)$ and $(7, 10, 8)$). Given arrays A and B, find in array A all subarrays equivalent to B. $O(n)$.

5. Given strings s and t, find substrings in t that differ from s by one letter. $O(n)$.

6. Given a set of strings s_i. Check if a string of infinite length exists that does not contain any of the s_i as substrings. $O(\sum len(s_i))$.

7. Given a set of strings s_i and string t. Cut out the maximum number of disjoint substrings from the string t, so that each of them is in the set s_i (you can cut out several identical strings). $O(\sum len(s_i) + len(t))$.

8. Given string t. Find the longest string that occurs in t at least k times in $O(|t| \log |t|)$.

9. Given k strings t_i. Find the longest string which is a substring of all of them. Time $O(\sum |t_i| \log(\sum |t_i|))$.