Explanation -
Rotation of string
Abcdef

cdefab

Subsequence -
Abcdefghij
Cgh
Afi

{}	1	nC0
A b c	n	nC1
Ab ac ad ae ,,... bc bd be bj..	_ _	nC2
Abc,		
….		
Abcdefghij	1	nCn
	total	2^n

Substring
Abcdefghij

Cfg   not a substring

Cde
Abc
Abcdef

A b c d e f		n
Ab bc cd de ef		n-1
Abc bcd cde def		n-2
Abcdefghi	bcdefghij	2
Abcdefghij		1
	Total =	n(n+1)/2

Permutations

Abcdabcd

Aabbccdd
Aabbcddc

Aabbcdcd

Find next permutation of this number
124631

Anagrams of string

Explanation -
Longest Palindrome substring in a string
Brute force - check all substrings   time- O(n*n*n)   space- O(1)

abcdcfgh
Go to every index -
Odd length - consider it as center and j=i-1,k=i+1 and j--,k++   check s[j]==s[k]
Even length - j=i,k=i+1, and j--,k++,   check s[j]==s[k]
Time - O(n*n)

Longest common prefix
Abcdef
Abcfde
Abc
Ab

Ans = ab
Time - O(n*k)

Pattern matching
String - aaaabcdaaddccbfdf
Pattern - abcd

Basic brute - O(n*k)
Kmp
Rabin karp
Boyer Moore Algorithm
Just read and understand for now

GREEDY

Fractional knapsack

Bag - 11   W
Weights - 2, 5, 7, 8   w1, w2, w3, w4
Values -   1, 4, 2, 3   v1, v2, v3, v4
Find max value

Find value/weight

½   ⅘   2/7   ⅜   - value for 1 unit of weight
Take max

11
⅘   11-5=6   4
½   6-2=4   4+1=5
2/7   4 - 4 = 0   5 + (4*2/7)

Min number of flips
`0001010111`

0001010111
0101010101
1010101010