11.1. Given two strings a and b. Find such a string c so that the maximum of the editorial distances: from c to a, and from c to b, is the minimum possible. Time $O(n^2)$.

11.2. Given a pattern of letters and special characters «?» and «*». The character «?» can be replaced with any one letter, the character «*» with any string (including empty). Check if the given string of length n matches the given pattern of length m. Time $O(nm)$

11.3. Given two patterns from the previous problem, find the shortest string that mathces both of them. Time $O(nm)$.

11.4. You have n books sorted by title. The height of book i is h_i. You want to put the books in a bookcase in sorted order: the first few books are on the first shelf, the next few are on the second, etc. Each shelf holds no more than m books. The height of the shelf is equal to the height of the maximum book on the shelf. Arrange the books on the shelves so that the total height of the shelves is minimal. Time $O(nm)$

11.5. The village consists of n houses located along a straight road. The coordinate of the i-th house is x_i. The internet provider wants to install several wifi access points in the village, covering all houses. A point with coverage radius r costs $A + Br^2$. Find the minimum cost of the required access points. Time $O(n^2)$.

11.6. The village consists of n houses located along a straight road. The coordinate of the i-th house is x_i. You need to build k shelters in the village. Arrange them so that the total distance from each house to the closest shelter is minimal. Time $O(n^2k)$.

11.7. You need to calculate the product of n matrices. Matrix i has size $a_i \times a_{i+1}$. As you know, to calculate the product of the matrices $a \times b$ and $b \times c$, you need to do abc operations. Find the way to calculate the final result in minimal number of operations. Time $O(n^3)$.

11.8. One soft drink company has organized a promotion: you need to collect caps with p stars in total to get a prize. You have m caps with one star, n cups with two stars and k cups with three stars. How many prizes can you get? Time $O(mnk)$.