

1. How do you find the maximum element in an array?
2. How do you calculate the sum of two integers?
3. How do you find the any middle element of a Array?
4. Find the string in the paragraphs

For example, given words "hello" and a text content of "dog cat hello cat dog dog hello cat world", return 2 because there's only two word "hello" in the Paragraphs.

5. Given an array of numbers, find the length of the longest increasing subsequence in the array. The subsequence does not necessarily have to be contiguous.

For example, given the array [0, 8, 4, 12, 2, 10, 6, 14, 1, 9, 5, 13, 3, 11, 7, 15], the longest increasing subsequence has length 6: it is 0, 2, 6, 9, 11, 15.

6. Given a list of points, a central point, and an integer k, find the nearest k points from the central point.

For example, given the list of points [(0, 0), (5, 4), (3, 1)], the central point (1, 2), and k = 2, return [(0, 0), (3, 1)].

7. Given an array of strictly the characters 'R', 'G', and 'B', segregate the values of the array so that all the Rs come first, the Gs come second, and the Bs come last. You can only swap elements of the array.

Do this in linear time and in-place.

For example, given the array ['G', 'B', 'R', 'R', 'B', 'R', 'G'], it should become ['R', 'R', 'R', 'G', 'G', 'B', 'B'].