### Divide and Conquer Algorithm

**Problem 0:** Implementations Merge sort, Binary Search using Divide and Conquer

**Problem 1:** Read, understand and implement the Strassen algorithm for matrix multiplication problems (Including the normal method and the Strassen Matrix Multiplication Algorithm)

**Required:**

* Describe the Algorithms
* Give Pseudocode of the Algorithms
* Write a program to implementation the Algorithms

**Problem 2:** Given an array X[] and a positive integer k, write a program to find the kth smallest element in the array (1 <= k <= n) using Divide and conquer Algorithm.

Examples:

* Input: X[] = [4, 3, 13, 2, 12, 7, 23], k = 4
* Output: 7 (7 is the 4th smallest element in the array)
* Input: X[] = [-12, -8, 16, 23], k = 2
* Output: -8 (-8 is the 2nd smallest element in the array)

**Problem 3:** You are given a 1D array X that may contain both positive and negative integers, find the sum of contiguous subarray of numbers which has the largest sum.

Examples:

* Input: X[-2, -5, 6, -2, -3, 1, 5, -6]
* Output: 7 ( the maximum subarray sum is [6, -2, -3, 1, 5])

**Problem 4:**

You are given an array [p1,p2,…,pn], where all elements are distinct. You can perform several (possibly zero) operations with it. In one operation, you can choose a contiguous subsegment of p and remove all elements from that subsegment, except for the minimum element on that subsegment.

For example, if p=[3,1,4,7,5,2,6] and you choose the subsegment from the 3-rd

element to the 6-th element, the resulting array is [3,1,2,6].

An array a is called *reachable* if it can be obtained from p using several (maybe zero) aforementioned operations. Calculate the number of reachable arrays, and print it modulo 998244353

**Input**

The first line of the input contains one integer t (1≤t≤104) — the number of test cases.

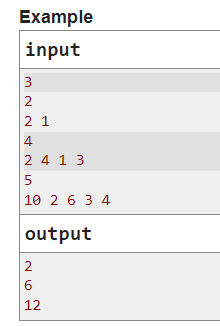
Each test case consists of two lines.

- The first line contains one integer n (1≤ n ≤ 3⋅105).

- The second line contains n distinct integers p1,p2,…,pn (1≤ pi ≤ 109). Additional constraint on the input: the sum of n over all test cases does not exceed 3⋅105

**Output**

For each test case, print one integer — the number of *reachable* arrays, taken modulo 998244353.

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