

## Problem Description

Reappear / Reattempt : Weekend

You and your friend are playing a number game in which you have an array A of integers and your friend's task is to find the product of numbers which are greater than their adjacent right number. Now, this number can be very large which might not fit in the integer range. So, return the modulo of this number with  $10^9+7$ .

Note:- Adjacent Right number is the number that is just next to the current number in the array.

## Problem Constraints

$1 \leq |A| \leq 10^5$

$1 \leq A[i] \leq 10^9$

[3, 5, 1, 2, 4, 1, 7, 9, 11]

Ans:  $5 \times 4$

```
long ans = 0
for(i=0; i<N-1; i++) {
    if (A[i] > A[i+1]) {
        if (ans == 0) { ans = 1; }
        ans = (ans % mod * A[i] % mod) % mod;
    }
}
return ans
```

Very Important

Monday: I will not take lecture! ~

Some other instructor going to take Monday lecture





### Problem Description

Sasori and his partner Deidara are on a mission to capture Gara the Kazekage of the Sand. Deidara is given the task to capture Gara while Sasori handles the outer gate and sets the traps.

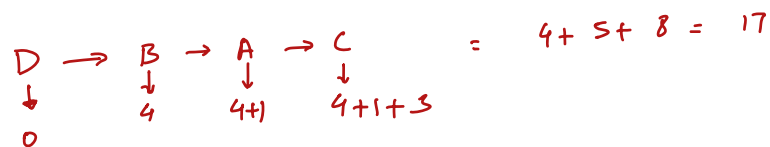
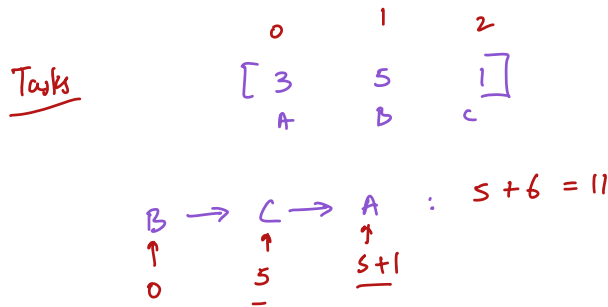
In order to attack Gara, Deidara sends  $N$  detonating birds towards Gara at the same time. The  $i$ th bird takes  $A[i]$  time to detonate. Only one bird can detonate at a time and when the turn of next bird comes it will also take its time as given in array  $A$ . The waiting time of a bird will be sum of time taken by all birds before it. Total wait is the sum of waiting time of each bird. Every one knows that Sasori does not like to wait, so Deidara wants to make it as quick as possible. You can arrange the attacking birds in any way. Find the minimum total waiting time.

Since the ans can be large output it modulo  $10^9 + 7$ .

### Problem Constraints

$$1 \leq N \leq 10^5$$

$$1 \leq A[i] \leq 10^5$$



A B C D

A: D

B: A

C: A+B

D: A+B+C

3A + 2B + C

minimize

A < B < C < D

A.sort()

N

long mul = N-1

long ans = 0

for (i=0; i < N; i++) {

    ans = (ans + mul \* A[i]) % mod

    mul--

}

return ans



### Problem Description

Construct a binary number having A 1's followed by B 0's. Return the decimal value of that binary number.

For eg

A = 3, B = 2

Answer = (11100) . Return = 28

Problem Constraints

$1 \leq A + B \leq 30$

1 1 1 0 0

i<sup>th</sup> bit

for (i = B; i <= B + A - 1; i++)  
set i<sup>th</sup> bit

[0, B-1] unset

[B, X] set      How many: A

$$X - B + 1 = A$$

$$X = A + B - 1$$

[B, A+B-1] set

↓  
A: 0 0 0 0 1 0 0 0 1  
OR 0 0 0 0 0 1 0 0 0  
-----  
0 0 0 0 1 1 0 0 1

num | (1 << i)