INFYTQ – HACKWITHINFY – 2021

QUESTION – GARLAND FOR DIWALI

You went to buy N garland for Diwali celebration. The local garland seller has a single garland of K (where K>=N) flowers.

The i^{th} flower has the beauty of P[i] (note: P[i] can be negative too).

You buy N garlands which can be achieved by breaking the K length garland from the seller. You can only buy garland that meet the following conditions.

- All the N garlands should be continuous as you can not join two garlands.
- Each of the N garlands should contain at least one flower in it.

For example: If the flower garland of the seller has beauty [2, -1, 3, -3, 4] & you want to buy 1 garland then you can buy a garland of [3, -3, 4] beauty flowers or [4] beauty flower but you can not buy a garland of [2, 3] beauty flower it will require you join two garlands of [2] or [3] beauty flowers.

Your task is to find the maximum sum of the beauty of flowers over all the N garlands that you can buy.

Input Format:

N → number of Garlands

K → number of elements in P

i^{th} → K^{th} elements array (where, 0<=i<K) denoting P[i]

Constraints:

1 <= N <= K

1 <= K <= 5000

-10^6 <= P[i] <= 10^6

Sample Inputs	Sample Outputs	Explanation
2 5 3 -2 1 4 -3	8	You can buy garland with flower [3] & [1,4]. Sum of beauty = 3+1+4 = 8
2 6 3 -1 2 -4 5 -4	9	You can buy garland with flower [3, -1, 2] & [5]. Sum of beauty = 3-1+2+5 = 9
4 6 3 -1 2 -4 5 -4	9	You can buy garland with flower [3], [-1], [2] & [5]. Sum of beauty = 3-1+2+5 = 9