Rod Cutting

Question

1. You are given an integer N, which represents the length of a rod, and an array of integers, which represents the prices of rod pieces of length varying from 1 to   
 N.  
2. You have to find the maximum value that can be obtained by selling the rod.  
3. You can sell it in pieces or as a whole.

Input Format

A number N  
arr1  
arr2.. N integers

Output Format

Check the sample output and question video.

Constraints

1 <= N <= 100000  
1 <= arr[i] <= 10^8

Sample Input

8  
1   
5   
8   
9   
10   
17   
17   
20

Sample Output

22