

### Problem 1: A. Jellyfish and Undertale

**Editorial:** In this problem we have 3 integer a, b, and n.  
Here n is the number of tool we can use to increase time.  
Here b is initial value of time of the bomb.  
Here a is the increasing limit of tools timer.  
When the the time is 0 the bomb will be explode.  
Now count from the initial value of the time bomb.  
So, we declare a time\_delay variable with the value of b.  
time\_delay = b;  
then for every element we count minimum of a-1 and tools\_time.  
Then add it with the time\_delay.  
Here why we compare a-1 and tools\_time .  
If a-tools\_time=0 then the bomb will explode.  
For this reason we compare a-1 and tools\_time.  
The equation is time\_delay+=min(a-1, tools\_time).  
We have to careful about overflow of the sum for this reason we can use static\_cast and other type of vary to different of programming language.  
The output is time\_delay.

## Problem 2: B. Aleksa and Stack

**Editorial:** In this problem we have  $n$  ( $n \geq 3$ ) integer and we have to construct an array that flow this following rules.

1. In the an segment of the output array we consider 3 number according to it's order like  $a, b, c$  where  $a < b < c$ .
2. if  $(3*c) \bmod (a+b)$  not equal to 0.

At first we declare  $a=2$  ,  $b=3$  and  $c=4$ .

Then output  $a$  and  $b$

and here iteration began for 2 to  $n-1$ .

While  $((3*c) \bmod (a+b))$  is true we increase  $c$  value by one.

While it's false we output  $c$  and update  $a=b$  ,  $b = c$  and  $c=c+1$ ;

### **Problem 3: A. How Much Does Daytona Cost?**

**Editorial:** The problem state that we have two integer  $n$  and  $k$ .  
 $n$  is the number of number are there and  $k$  is to find from the number.

We can solve it by two ways:

1. linear search it's time complexity is  $O(n)$

2. Binary search algorithm  $O(\log(n))$ .

if we use linear search then we don't need a sorted list but if we use binary search algorithm then the data need to be sorted.

We can use any types of sorting algorithm for the data.

If the  $k$  is found then output YES.

Else output NO.

## Problem 4: A. Increasing Sequence

**Editorial:** Here  $n$  is number of elements. We already have  $n$  number of sequence and we need to construct a array that:

if data1 and data2 is number of sequence then  $I$ 'th data1 not equal to  $I$ 'th data2.

Data2 value should be increasing .

First we check that:

if first data is greater than 1 then we initialize a value find =1

else find = 2;

for element of the data 2 to  $n-1$ ;

if the element and find difference is 1 then update find by increasing 2.

else update find by increasing 1.

output the find.

### Problem 5: A. Rigged!

**Editorial:** In this problem there are  $n$  athletes. The  $n$  number of athletes contains two value strength and the endurance.

The two value of the  $n$  elements is polycarp numbers.

Monocraps wants to win polycrap in the competition.

We check that

for iteration of 2 to  $n-1$

if  $\text{polycrap's\_strength} \leq \text{I'th\_athletes\_strength}$  and  $\text{polycrap's\_endurance} \leq \text{I'th\_athletes\_endurance}$

output -1 and break the iteration because of polycrap can't win the competition.

Else store polycrap's\_strength.

If this  $\text{polycrap's\_strength} \leq \text{I'th\_athletes\_strength}$  and  $\text{polycrap's\_endurance} \leq \text{I'th\_athletes\_endurance}$  is not true then out polycrap's output.