

Questions are in roughly increasing difficulty order. You will need to make an account at orac2 (<https://orac2.info/accounts/login/>) to submit, or alternatively you can show Lake, Cyril or I your solution :)

Please discuss with people at your table and the CPMSoc team :)

**NORT**

<https://orac2.info/problem/aio12nort/>

## Binary Snap 2

<https://orac2.info/problem/aio15snap/>

## Medusa's Snakes

Medusa has snakes instead of hair. Each of her snakes' DNA is represented by an uppercase string of letters. Each letter is one of S, N, A, K or E. Your extensive research shows that a snake's venom level depends on its DNA. A snake has venom level  $x$  if its DNA:

- has exactly  $5x$  letters
- begins with  $x$  copies of the letter S
- then has  $x$  copies of the letter N
- then has  $x$  copies of the letter A
- then has  $x$  copies of the letter K
- ends with  $x$  copies of the letter E.

By **deleting zero or more letters** from the DNA, what is the maximum venom level this snake could have?

The length of the DNA is at most 100 000.

<https://orac2.info/problem/aio19snake/>

### Cats 3

Given arrays A and B, a combination is  $A[i] + B[j]$ . What is the kth largest combination?

$|A|, |B| \leq 100\,000$

See details, examples, and submit your solution:

<https://orac2.info/problem/aio07cats/>

## Negotiations

<https://orac2.info/problem/aiio12negotiations/>