

=== Compiler online time ===

A1: 30+10

A2: 25

B1: 30+5

B2: 30

=== Online 1 (Basics) ===

**A1** (Input will be A/B/C/..../H, time 40 mins)

Input => Output Format:

A => 17

B => 16

.

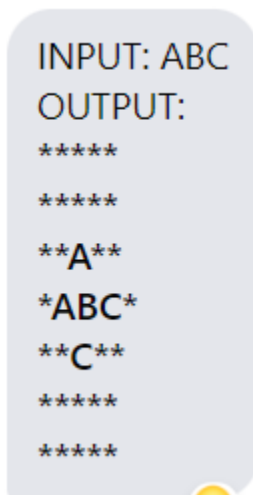
.

.

G => 11

H => 10

**A2** (Input always 3 characters, time 20 mins)



```
INPUT: ABC
OUTPUT:
*****
*****
**A**
*ABC*
**C**
*****
*****
```

**B1** (Input will be a to m always, time 30 mins)

Input => Output Format:

a => Z

$b \Rightarrow X$

$c \Rightarrow V$

.

.

.

$m \Rightarrow B$

**B2**

A  $\rightarrow$  y

B  $\rightarrow$  z

C  $\rightarrow$  w

D  $\rightarrow$  x

10 marks

A  $\rightarrow$  b

B  $\rightarrow$  a

C  $\rightarrow$  d

D  $\rightarrow$  c

9 marks

A  $\rightarrow$  z

B  $\rightarrow$  y

C  $\rightarrow$  x

D  $\rightarrow$  w

8 marks

Input can be any capital letter

There are 3 questions. Solve according to the mark you want

=== Online 2 (If-else) ===

**A1**

3 sides (single digit) of a triangle will be given. Determine which family it belongs to (Equilateral/Isosceles/Scalene)

## **A2**

Input: A number between 1-100. Multi-digit input consumption part was provided

Output: Determine the grade

Sample I/O:

80-100 => A+

70-79 => A

.

.

.

0-39 => F

## **B1**

Input: Any character (Any means any. Lowercase/uppercase letters, other ascii characters, anything can be input. One teacher even pressed F10 as input lul)

Output: Determine whether the ascii character is vowel/consonant/other

## **B2**

Input: Two numbers that depict the abscissa and ordinate of a point in the Cartesian coordinate system. To distinguish between pos & neg numbers, pos numbers will always start with '0' (e.g. 05, 07) & neg numbers will start with '-' (e.g. -5, -7). Please note that input will always be two characters

Output: Determine which quadrant/axis the point lies in

=== Online 3 (Loop, stack etc) ===

## **A1**

Input: Any 3-9 base number

Output: Convert it to binary

Time: 45 mins

## **A2**

একটা নাম্বার ইনপুট নাও, ১ থেকে ঐ নাম্বারের মাঝে কতগুলো ফল্টি নাম্বার আছে, বের কর।

ডেফিনেশনঃ ফল্টি নাম্বার হচ্ছে যাদের প্রকৃত উৎপাদকের যোগফল, ঐ নাম্বার অপেক্ষা বেশি

১২ একটা ফল্টি নাম্বার  
কারণ, ১২ এর প্রকৃত উৎপাদক ২, ৩, ৪, ৬ এর যোগফল,  $১৫ > ১২$

Sample I/O  
In: 10  
Out: 0  
In: 20  
Out: 3

সময়, ৩৫ মিনিট

## B1

Selection sort (a picture of selection sort simulation was provided. Also, since we did offline with insertion sort, the modification became comparatively less painful. I had to change only the sorting algo part, the input consumption and array printing part were the exact same as insertion sort; time 30+10)

## B2

Input: An integer, N

Output: Print all the co-primes of N from numbers 2 to N & the total number of co-primes (C code of GCD was provided)

Time: 40 mins