

Problem D. How to Identify My Name

Finally! The 2023 ICPC Asia Jinan Regional Contest is taking place! As the Chief Judge, Little Cyan Fish is very excited at this moment. We would like to thank all the participants, judges, staff, and volunteers. Thank you all for your great contribution to this contest!

And this problem is Little Cyan Fish's gift to everyone. Here, you will be given 8 people who are either participants or are involved in the preparation of the contest. Then, a total of 16 images will be given. You need to match each of the people to his/her profile image.

1	2	3	4	5	6	7	8
Qingyu	Elegia	chenjb	jiangly	apiadu	feecle6418	zimpha	TsReaper

A	B	C	D
			
E	F	G	H
			
I	J	K	L
			
M	N	O	P
<div>$M = A^{-1}DA$<p>Where $M_{ij} = x_{(i-j) \bmod n}$</p>$D_{ii} = \sum_{j=0}^n x_j w_n^{ij} (w_n = e^{\frac{2\pi i}{n}})$$D_{ij} = 0 (i \neq j)$$A_{ij} = w_n^{ij}$</div>			

Of course, this task will be challenging. Thus, Little Cyan Fish allows you to make some mistakes: As long as you answered **at least six** out of the eight questions correctly, your solution will be considered correct.

Input

There is no input for this problem.

Output

Output a single line containing eight characters indicating the answer.

For example, if you think the correct answer is the following, you should output a single line **ABCDOPGF**.

1	2	3	4	5	6	7	8
Qingyu	Elegia	chenjb	jiangly	apiadu	feecle6418	zimpha	TsReaper
A	B	C	D	O	P	G	F

As long as you answered **at least six** out of the eight questions correctly, your solution will be considered correct.

Example

standard input	standard output
<no-input>	ABCDOPGF

Note

Please note that the sample output is NOT the correct answer! It only serves the purpose of showing you the output format.