



Validating Credit Card Numbers ★

66/115 challenges solved

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Problem

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You and Fredrick are good friends. Yesterday, Fredrick received N credit cards from **ABCD Bank**. He wants to verify whether his credit card numbers are valid or not. You happen to be great at regex so he is asking for your help!

A valid credit card from **ABCD Bank** has the following characteristics:

- ▶ It must start with a **4**, **5** or **6**.
- ▶ It must contain exactly **16** digits.
- ▶ It must only consist of digits (**0-9**).
- ▶ It may have digits in groups of **4**, separated by one hyphen "-".
- ▶ It must NOT use any other separator like ' ', '_', etc.
- ▶ It must NOT have **4** or more consecutive repeated digits.

Examples:

Valid Credit Card Numbers

```
4253625879615786
4424424424442444
5122-2368-7954-3214
```

Invalid Credit Card Numbers

```
42536258796157867      #17 digits in card number → Invalid
4424444424442444      #Consecutive digits are repeating 4 or more times → Invalid
5122-2368-7954 - 3214  #Separators other than '-' are used → Invalid
44244x4424442444      #Contains non digit characters → Invalid
0525362587961578      #Doesn't start with 4, 5 or 6 → Invalid
```

Input Format

The first line of input contains an integer N .

The next N lines contain credit card numbers.

Constraints

$$0 < N < 100$$

Output Format

Print 'Valid' if the credit card number is valid. Otherwise, print 'Invalid'. Do not print the quotes.

Sample Input



```
6
4123456789123456
5123-4567-8912-3456
61234-567-8912-3456
4123356789123456
5133-3367-8912-3456
5123 - 3567 - 8912 - 3456
```

Sample Output

```
Valid
Valid
Invalid
Valid
Invalid
Invalid
```

Explanation

4123456789123456 : **Valid**

5123-4567-8912-3456 : **Valid**

61234-**567**-8912-3456 : **Invalid**, because the card number is not divided into equal groups of **4**.

4123356789123456 : **Valid**

51**33-33**67-8912-3456 : **Invalid**, consecutive digits **3333** is repeating **4** times.

5123 — 4567 — 8912 — 3456 : **Invalid**, because space ' ' and - are used as separators.

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Language

Python 3



```
1 # Enter your code here. Read input from STDIN. Print output to STDOUT
```

Line: 1 Col: 70

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