Manku Word

Manku loves Codechef's Lucky Number and now he decided to start Manku words :)

Manku words are those words which have only letters 'm', 'a', 'n', 'k', 'u'.

Generally in english, 'a' comes before 'k', 'k' comes before 'm' and so on. But in Manku's dictionary, 'm' comes before 'a', 'a' comes before 'n', 'n' comes before 'k', 'k' comes before 'u'.

Thus according to manku

- 1st manku word is m
- 2nd manku word is a
- 3rd manku word is n
- 4th manku word is k
- 5th manku word is u
- 6th manku word is mm
- 7th manku word is ma

and so on ...

Your task is very simple. For given value of n, write the n-th manku word.

Input

First line of input contains an integer t (1 <= t <= 100).

Each test case contains an integer n (1 <= n <= 10^18).

Output

For every test case print the n-th manku word on separate line.

Example

Input:
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5
10
4
16
17
31
```

Output:
```
mu
k
nm
na
mmm
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