

Amusing numbers

Amusing numbers are numbers consisting only of digits 5 and 6. Given an integer **k** , display the **k**-th amusing number.

Input

First line consists of integer **N** representing number of test cases

Next **N** lines consist of **N** integers ($1 \leq k \leq 10^{15}$)

Output

N lines each displaying corresponding **k**-th amusing number

Example

Input:

2
1
5

Output:

5
65