# Fun with numbers

Consider a set of 4 numbers {1, 3, 5, 7}. Form a number using these digits in the set under the following constraints,1 can be followed only by 3 (i.e. the number may contain 13 but not 15 or 17 or 11 eg:13573 is valid but not 113573), 3 can be followed only by 1 and 5, 5 can be followed only by 7, 7 can be followed only by 5 and 3.

Find the number of such numbers of length n.

e.g.: 37, 51, 53, 71 are all not a valid number of length 2. 131 is a valid number of length 3. 1357 and 1313 are all a valid number of length 4 but 11 or 1537 or 15 or 17 or 33 are not valid numbers.

## Input

t, First line of input contains number of test cases 0 <= t <= 40.

Remaining t lines consist of length n for each test case 0 <= n <= 10000.

## Output

Output the number of possible numbers of length n followed by a line (note long long int in C++ may not be sufficient.)

## Example

**Input:**
3
2
1
4

**Output:**
6
4
13

Note: time limit is reduced for checking the accuracy.