**Questions:2**

**Total no. of questions:1**

**Submission: submit the answer to your team via text file. Text file must contain:**

**Your code**

**Explanation of code**

**QUESTION 1:**

**The Utopian Tree goes through 2 cycles of growth every year. Each spring, it doubles in height. Each summer, its height increases by 1 meter.**

**Laura plants a Utopian Tree sapling with a height of 1 meter at the onset of spring. How tall will her tree be after growth cycles?**

**For example, if the number of growth cycles is , n=5 the calculations are as follows:**

**Period Height**

**0 1**

**1 2**

**2 3**

**3 6**

**4 7**

**5 14**

**Input Format:**

**The first line contains an integer, t , the number of test cases.**

**t subsequent lines each contain an integer, n , denoting the number of cycles for that test case.**

**Constraints:**

**1<= t<=10**

**0<=n<=60**

**Output Format:**

**For each test case, print the height of the Utopian Tree after n cycles. Each height must be printed on a new line.**

**Sample Input:**

**3**

**0**

**1**

**4**

**Sample Output:**

**1**

**2**

**7**

**Explanation:**

**There are 3 test cases.**

**In the first case (n=0), the initial height (H=1) of the tree remains unchanged.**

**In the second case (n=1), the tree doubles in height and is 2 meters tall after the spring cycle.**

**In the third case (n=4), the tree doubles its height in spring (n=1,H=2 ), then grows a meter in summer (n=2,H=3 ), then doubles after the next spring (n=3,H=6 ), and grows another meter after summer (n=4,H=7 ). Thus, at the end of 4 cycles, its height is 7 meters.**

**Source code:**

a=int(input())

for i in range(a):

b=int(input())

c=1

for j in range(1,b+1):

if j%2!=0:

c\*=2

else:

c+=1

print(c)

**Sample Input:**

3

0

1

4

**Sample Output:**

1

2

7

**Explaination:**

In this program period of growth of utopian tree is twice the times in spring and increases by 1 in summer.