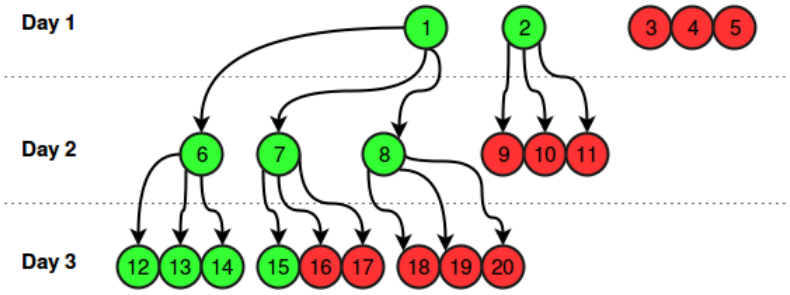
Viral Advertising

HackerLand Enterprise is adopting a new viral advertising strategy. When they launch a new product, they advertise it to exactly 5 people on social media.

On the first day, half of those 5 people (i.e., $floor(\frac{5}{2}) = 2$) like the advertisement and each person shares it with 3 of their friends; the remaining people (i.e., $5 - floor(\frac{5}{2}) = 3$) delete the advertisement because it doesn't interest them. So, at the beginning of the second day, $floor(\frac{5}{2}) \times 3 = 2 \times 3 = 6$ people receive the advertisement.

On the second day, half of the 6 people who received the advertisement share it with 3 new friends. So, at the beginning of the third day, $floor(\frac{6}{2}) \times 3 = 3 \times 3 = 9$ people receive the advertisement. The diagram below depicts the advertisement's virality over the first three days (green denotes a person that likes the advertisement and red denotes a person that disliked and deleted it):



Assume that at the beginning of the i^{th} day, m people received the advertisement, $floor(\frac{m}{2})$ people like and share it with 3 new friends, and $m - floor(\frac{m}{2})$ people dislike and delete it. At the beginning of the $(i+1)^{th}$ day, $floor(\frac{m}{2}) \times 3$ people receive the advertisement.

Given an integer, n, find and print the total number of people who *liked HackerLand Enterprise's advertisement* during the first n days. It is guaranteed that no two people have any friends in common and, after a person shares the advertisement with a friend, the friend always sees it the next day.

Input Format

A single integer, n, denoting a number of days.

Constraints

- $1 \leq n \leq 50$

Output Format

Print the number of people who liked the advertisement during the first n days.

Sample Input

```
3
```

Sample Output

```
9
```

Explanation

This example is depicted by the diagram at the top of the challenge. 2 people liked the advertisement on the first day, 3 people liked the advertisement on the second day and 4 people liked the advertisement

on the third day, so the answer is $2 + 3 + 4 = 9$.

```
#!/bin/python3

import math
import os
import random
import re
import sys

#
# Complete the 'viralAdvertising' function below.
#
# The function is expected to return an INTEGER.
# The function accepts INTEGER n as parameter.
#

def viralAdvertising(n):
    # Write your code here
    p=5
    Cumulative=0
    for i in range(1,n+1):
        Liked=p//2
        Cumulative+=Liked
        p=Liked*3
    return Cumulative
if __name__ == '__main__':
    fptr = open(os.environ['OUTPUT_PATH'], 'w')

    n = int(input().strip())

    result = viralAdvertising(n)

    fptr.write(str(result) + '\n')

    fptr.close()
```