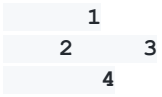
https://course.acciojob.com/idle?question=f2643ec6-6712-4459-9b06-d684cdc34b6f

MEDIUM

Max Score: 40 Points

Handshakes

We have N persons sitting on a round table. Any person can do a handshake with any other person.



Handshakes with 2-3 and 1-4 will cause a cross.

Find the total number of handshakes these N people can make so that no two handshakes cross each other? N would be even.

Input Format

Input contains a single integer representing N.

Output Format

Return the total number of handshakes these N people can make so that no two handshakes cross each other.

Example 1

Input

2

Output:

1

Explanation: {1,2} handshake is possible.

Example 2

Input

4

Output

2

Explanation {{1, 2}, {3, 4}} are the two handshakes possible. {{1, 3}, {2, 4}} is another set of handshakes possible.

Constraints

1 <= N <= 30

Topic Tags

Recursion

My code

```
// in java
import java.io.*;
import java.util.*;
public class Main {
        public static int num(int n) {
  int [] G = new int[n+1];
```

```
  G[0] = G[1] = 1;

  for(int i=2; i<=n; ++i) {
    for(int j=1; j<=i; ++j) {
      G[i] += G[j-1] * G[i-j];
    }
  }
  return G[n];
}
    public static int handshakes(int n){
       // your code here
              return num(n/2);
    }
    public static void main(String args[]) {
        Scanner input = new Scanner(System.in);
        int n = input.nextInt();
        int cnt = handshakes(n);
        System.out.println(cnt);
    }
}
```