



Project Euler #2: Even Fibonacci numbers

Problem

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This problem is a programming version of [Problem 2](#) from [projecteuler.net](#)

Each new term in the Fibonacci sequence is generated by adding the previous two terms. By starting with **1** and **2**, the first **10** terms will be:

1, 2, 3, 5, 8, 13, 21, 34, 55, 89, ...

By considering the terms in the Fibonacci sequence whose values do not exceed **N** , find the sum of the even-valued terms.

Input Format

First line contains **T** that denotes the number of test cases. This is followed by **T** lines, each containing an integer, **N** .

Constraints

- $1 \leq T \leq 10^5$
- $10 \leq N \leq 4 \times 10^{16}$

Output Format

Print the required answer for each test case.

Sample Input 0

```
2
10
100
```

Sample Output 0

```
10
44
```

Explanation 0

- For **$N = 10$** , we have **$\{2, 8\}$** , sum is **10**.
- For **$N = 100$** , we have **$\{2, 8, 34\}$** , sum is **44**.

C++



1

2



Line: 1 Col: 1

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