## Compute The Computation

Let $\mathbf{P}=\mathbf{C}(\mathbf{N}, \mathbf{0})-\mathbf{C}(\mathbf{N}, \mathbf{1})+\mathbf{C}(\mathbf{N}, 2)-\mathbf{C}(\mathbf{N}, \mathbf{3})+$ $\qquad$ $\mathbf{C}(\mathbf{N}, \mathrm{N})$

You are given $\mathbf{N}$. You have to find the value of $\mathbf{P}$.
Input:
Input starts with an integer $\mathbf{T}$, denoting the number of test cases. Each test case contains an integer $\mathbf{N}$.

## Constraints:

$0<=\mathrm{N}<=1000000$
$1<=T<=1000000$

## Output:

For each test case, print the value of $\mathbf{P}$.

| Sample Input | Sample Output |
| :--- | :--- |
| 1 | 0 |
| 4 |  |

Note: use faster i/o method.

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