# With Friends Like These

If you have ever player the video game *Starcraft 2 the heart of the swarm*, you may finished the mission *With Friends Like These*.

The queen of the blades Sarah Kerrigan find the human’s space ship Hyperion and its’ captain Matt Horner. They decide to make a deal with a mercenary Mira Han to let her release a computer master to save Jim Raynor who is the leader of revolution army and the lover of Kerrigan.

But things go badly due to the avarice of the mercenary Mira Han. Mira Han claim that she has no right to release the computer master without the agreement of Jim. Finally Matt Horner think things are not negotiable, so he has to fight with Mira by using his Battlecruiser Hyperion.

You can regard the space as a Cartesian coordinate system, the Hyperion is now at the point of (0,0,0). The Battlecruiser Hyperion can jump to a neighboring integer point every step, for example, if the ship is now at the point of (1,0,-1), it can jump to (1,-1,-1) or (2,0,-2) etc. in the next step. Because the space is full of minor planet, Matt can only drive the Hyperion randomly and it has the same probability to jump to any direction.

Worrying her lover Jim, Kerrigan wants to know the expect number of points the Hyperion visited.

Because the queen’s mind is invaded by worry and anxiety, this task is given to you, you need to make a program to calculate the expect number of visited points.

Input

Just input a single integer indicates the step of Hyperion.

Output

Define the integer as the expect number of points the Hyperion visited. You should output a single integer