Tjandra 19th birthday (EASY)

This day (7 February 2013) is my 19th birthday So, I want to celebrate it on SPOJ by making this EASY puzzle problem.

This game/puzzle is about matches, given **n** matches, your task is to arrange the matches (not necessarily all) such that number of rectangle (any size) is maximum.

Input

First line there is an integer **T**≤100 then **T** lines follow, each line contain an integer **n**<1.000.000.000.

Output

For each test case, output required answer (maximum number of rectangles)

Example

Input:

5

3

4

8

12

15

Output:

0

1

3

9

12

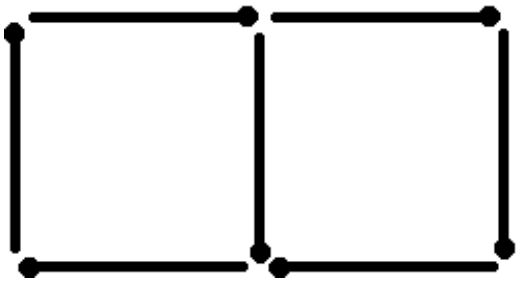
Explanation

-->First test case: No rectangle can be formed with only 3 matches

-->Second test case: Only one rectangle can be formed with 4 mathes

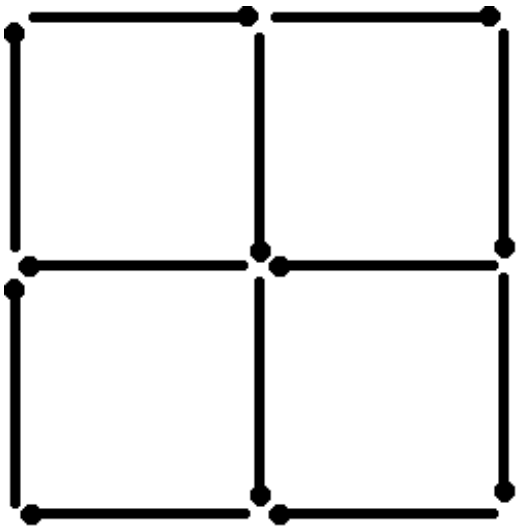
-->Third test case:

there are max 3 rectangles (2 size 1x1, 1 size 2x1) can be formed with number of matches<=8, here is one of the mathes formation:



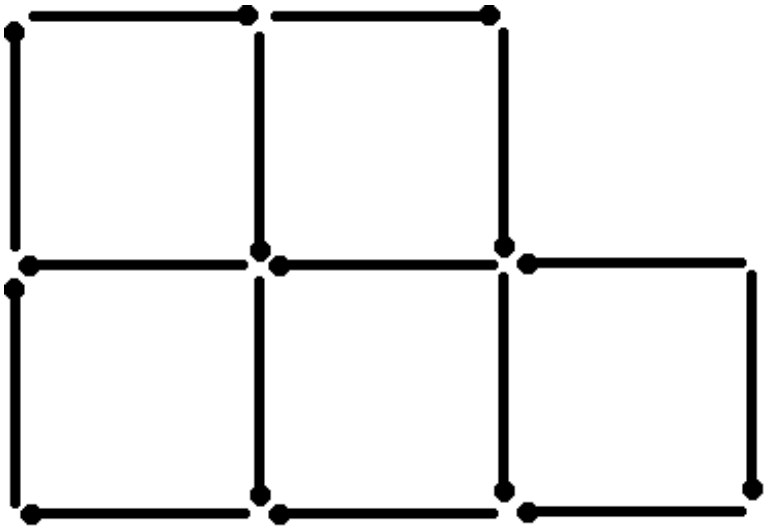
-->Fourth test case:

there are max 9 rectangles (4 size 1x1, 2 size 2x1, 2 size 1x2, 1 size 2x2) can be formed with number of matches <=12, here is one of the formation:



-->Fifth test case:

there are max 12 rectangles (5 size 1x1, 3 size 2x1, 1 size 3x1, 2 size 1x2, 1 size 2x2) can be formed with number of matches <=15, here is one of the formation:



Information

Time limit≈150x my program speed, Enjoy this birthday party game, I set this problem such that semi naive solution will pass..

See also: Another problem added by Tjandra Satria Gunawan