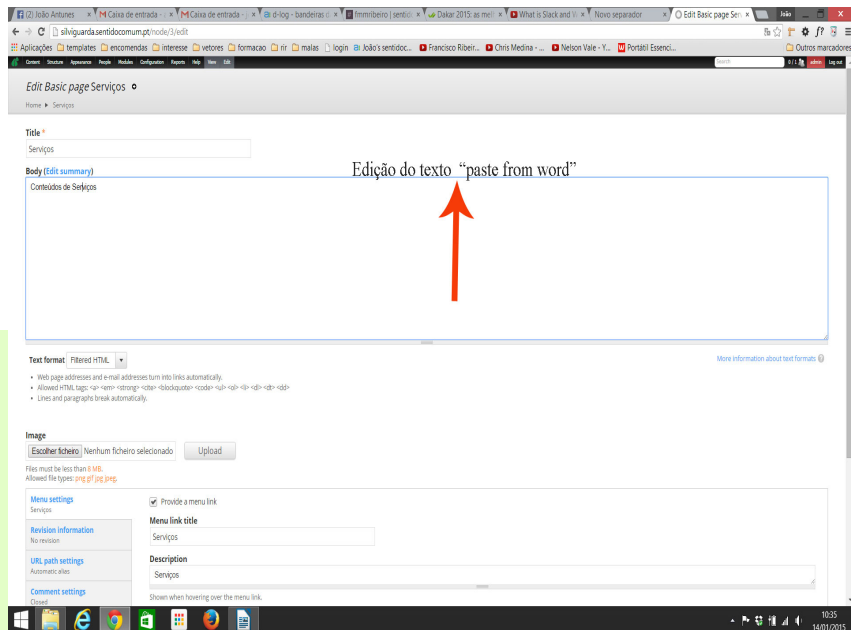
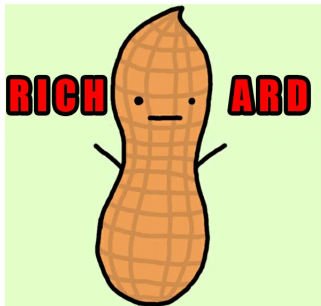


Azooz

Azooz is a trainee in acmASCIS Level 1 and he just got his Mid Year Vacation. Since he is a naughty boy he often goes to the kitchen when no one at home to play with matches (and to eat of course :D), after many failed attempts to burn down the House, Azooz got bored and wanted to do something new with the matches.

The Idea Azooz got is that he builds larger triangles using equal sized triangles formed by the matches he got, so a simple triangle with only one level needs only three matches and another one with two levels needs 9 matches and so on.



The two figures illustrate the examples discussed above, and you should know the Number of Matches Azooz needs to complete his Triangle.

Input

First line of input contains number of test cases T ($1 < T < 50$), followed by T lines each of which contains non-negative integer N , in which $N < 100$, N denotes the level which Azooz wants to build the triangle.

Output

For each test case print "Case_#i:_X" where "i" is the case number (starting with 1), "X" is number of matches needed to build intended triangle and "_" is a white space. Each test case should be on a separate line.

Example

Input:

2
1
2

Output:

Case #1: 3

