Sleep or No Sleep

Input file:	`standard input`
Output file:	`standard output`
Time limit:	1 second
Memory limit:	64 megabytes

CSE-222 Analysis and Design of Algorithms

Plagiarism: All submitted codes are expected to be the result of your individual effort. You should never misrepresent someone else's work as your own.In case any plagiarism case is detected you will get one grade reduction in final examination.Cite the resource wherever using other's code.

Instructions:-

1)You must complete this in the lab timing only and allowed programming language are Java/C/C++.If have doubt about the libraries and function to use ask the TA about it.

2)You must submit your working solution on Foobar on the foobar portal page from where you have downloaded this lab instructions sheet.

3)No extensions on deadline.If you fail to submit within will not be evaluated.

4)Mention your enrollment no. and name at starting of the file along with a brief.

Problem:

Use only recursion to solve the following problem:

Initially you have total of n pens and you start using a new pen at every hour. At the end of the hour, you throw that pen and never use it. If you work consecutively m-1 hour, then at the mth hour you will be rewarded a new pen. Formally you will get a new pen at every (i*m)th (i>0) hour. How many hours you have to work until you go back to sleep. You'll go back to sleep when you have no more new pen to write. Print the maximum no of hours you'll have to work. If there's no way you'll be able to sleep at all, print "No Sleep"as the output.

Input

Line 1 contains T(1<=T<=10).
Each testcase contains 2 space separated integers n and m(1<=n,m<=100).

Output

Print the maximum no of hours you'lll have to work till you go back to sleep.
If no sleep is possible,print "No Sleep"(without quotes).

Example

standard input	standard output
2 2 2 3 2	3 5

Note

The new pen you'll get at the mth hour, you won't be able to use it before (m+1)th hour.