

Valentine's Day '19 J1 - Rainbow Rating

Time limit: 2.0s **Memory limit:** 64M

The administrators of DMOJ have become bored with the current rating colours that they have. With the highest possible rating being the infamous *Target*, they have decided to add a new rating category that is a mixture of multiple colours, the *Rainbow Rating*. This special category is reserved for those who are able to obtain a rating **greater than or equal to** 4000. Now, the rating chart is as follows:

Rating Chart	
<1000	Newbie
1000-1199	Amateur
1200-1499	Expert
1500-1799	Candidate Master
1800-2199	Master
2200-2999	Grandmaster
3000-3999	Target

Anything **above or equal to** 4000 will be considered *Rainbow Rating*, with the distinguished title of *Rainbow Master*.

You are given the rating of N users. For each user, can you output the category that each user belongs to?

Constraints

$$1 \leq N \leq 100$$

$$|x_i| \leq 10^9, \text{ where } x_i \text{ is the rating of the } i^{\text{th}} \text{ user.}$$

Input Specification

The first line of input will contain N .

The next N lines of input will contain x_i , the rating of the i^{th} user.

Output Specification

According to the rating given, output the rating category the user belongs to.

Sample Input

9
3
1001
1309
1567
2000
2999
3502
9999
-1231224

Sample Output

Newbie
Amateur
Expert
Candidate Master
Master
Grandmaster
Target
Rainbow Master
Newbie