

CMPUT 275 - Tangible Computing

Morning Problem: Cake Cutting

Description

Bob is very particular, he only likes when his cake is cut into a power of n slices. In fact, he despises any such cake that is not to his liking so much so that he throws it out. The problem is, Bob has trouble with math and he throws out perfect cakes all the time... how wasteful!

Bob would like someone to write a program that tells him whether or not a cake of m slices is cut into a power of n so he can stop needlessly throwing out his favourite treat.

Your goal is to write this program for Bob, given a cake cut into m slices you must determine whether or not there are a power of n slices of cake.

Input

The first and only line of input contains two space-separated integers, n ($1 \leq n \leq 500$), the base Bob likes, and m ($1 \leq m \leq 1,000,000$), the amount of slices of cake.

Output

You are to output one line containing either “GOOD” if there are a power of n slices of cake, or “BAD” if there are not.

Sample Input 1

2 4

Sample Output 1

GOOD

Explanation:

There are 4 slices of cake which is 2^2 , so Bob will not throw out this cake.

Sample Input 2

5 3

Sample Output 2

BAD

Explanation:

There are only 3 slices of cake, which is in between 5^0 and 5^1 , so this is a bad cake.