## 1017 A Mathematical Curiosity

### 一、题目

#### 问题描述

Given two integers n and m, count the number of pairs of integers (a,b) such that 0 < a < b < n and (a2+b2 +m)/(ab) is an integer.

This problem contains multiple test cases!

The first line of a multiple input is an integer N, then a blank line followed by N input blocks. Each input block is in the format indicated in the problem description. There is a blank line between input blocks.

The output format consists of N output blocks. There is a blank line between output blocks.

#### 输入数据

You will be given a number of cases in the input. Each case is specified by a line containing the integers n and m. The end of input is indicated by a case in which n = m = 0. You may assume that 0 < n <= 100.

#### 输出数据

For each case, print the case number as well as the number of pairs (a,b) satisfying the given property. Print the output for each case on one line in the format as shown below.

#### 输入样例

1

10 1

20 3

30 4

0 0

#### 输出样例

Case 1: 2

Case 2: 4

Case 3: 5

#### 题目来源

HDU 1017 http://acm.hdu.edu.cn/showproblem.php?pid=1017

### 二、题解

#### 解题思路

题目大意是给定两个整数n、m，要求求出满足条件的数对（a、b）共有多少对。

a，b需满足条件0<a<b<n，且(a2+b2+m)/(ab)是个整数（即余数为0）。

其实就是一个简单的暴力枚举，用两层for循环来分别代表a和b的大小，然后每次循环都检验是否满足第二个条件，满足就num++，最后输出num即可。

#### 参考程序

#include <stdio.h>  
#include <stdlib.h>  
  
int main()  
{  
 int N;  
 scanf("%d",&N);  
 while(N--)  
 {  
 int n,m;  
 int cases=1;  
 int num,i,j;  
 while(scanf("%d%d",&n,&m)!=EOF&&(n+m))  
 {  
 num=0;  
 printf("Case %d: ",cases++);  
 for(i=1;i<n-1;i++)//代表a的数值  
 {  
 for(j=i+1;j<n;j++)//代表b的数值  
 {  
 if((i\*i+j\*j+m)%(i\*j)==0) num++;//满足条件2就num++  
 }  
 }  
 printf("%d\n",num);  
 }  
 if(N) printf("\n");  
 }  
 return 0;  
}

#### 复杂度分析

无

#### 编程技巧

无