Count Solutions

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Alright, to solve this problem, we can simply iterate over the value of a. Say we are iterating with a variable i. Now we can solve a quadratic in b:

$$b^2 - b \cdot k + i^2 - i \cdot n = 0$$

We can simply used the quadratic formula here, to check if the roots meet our conditions and are distinct.

Statistics

Difficulty: Medium
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Set by trophies

Problem Setter's code :

```
#include <bits/stdc++.h>
using namespace std;
typedef long long ll;
map <ll, ll> squareroot;
ll det (ll a, ll b, ll c)
{
    return b*b-4*a*c;
}
int main()
{
    for (ll g=1;g<=100000; g++) squareroot[g*g]=g;
    ll T; cin >> T;
    for (ll g=0; g<T; g++)
    {
        ll answer=0;
        ll n, k, t, o; cin >> n >> k >> t >> o;
        for (ll a=1; a<=t; a++)
        {
            ll first=1;
            ll second=-k;
            ll third=a*a-a*n;
            ll l=det(first, second, third);
            ll squarerootl=squareroot[l];
            if (squarerootl*squarerootl==l)
            {
                ll check1=-second+squarerootl, check2=-second-squarerootl;
                if (check1%2==0)
                {
                    check1/=2;
                    if (check1>=1 && check1<=o)
                    answer++;
                }
                if (check2%2==0 && squarerootl!=0)
                {
                    check2/=2;
                    if (check2>=1 && check2<=o)
                    answer++;
                }
            }
        }
        cout << answer << '\n';
    }
}
```