**Aman and his birthday gift**

Attempted by: **1247**

/

Accuracy: **92%**

/

Maximum Score: **30**

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21 Votes

Tag(s):

Easy-Medium

**PROBLEM**

**EDITORIAL**

**MY SUBMISSIONS**

**ANALYTICS**

Today is Aman's birthday but I forgot to bring a gift for him. He is very angry with me. I have an idea for a gift. He likes coding very much. Why not give him a problem to solve as his gift?

Aman likes everything infinite. Now he is studying the properties of a sequence s, such that its first element is equal to a (s1 = a), and the difference between any two neighbouring elements is equal to c (si - si - 1 = c). In particular, Aman wonders if his favourite integer b appears in this sequence, that is, there exists a positive integer i, such that si = b. Of course, you are the person he asks for a help.

Input  
The first line of the input contain three integers a, b and c ( - 10^9 ≤ a, b, c ≤ 10^9) — the first element of the sequence, Aman's favorite number and the difference between any two neighbouring elements of the sequence, respectively.

Output  
If b appears in the sequence s print "YES" (without quotes), otherwise print "NO" (without quotes).

**SAMPLE INPUT**

1 7 3

**SAMPLE OUTPUT**

YES

**Explanation**

In the first sample, the sequence starts from integers 1, 4, 7, so 7 is its element.

**Time Limit:**1.0 sec(s) for each input file.

**Memory Limit:**256 MB

**Source Limit:**1024 KB

**Marking Scheme:**Marks are awarded when all the testcases pass.

**Allowed Languages:**C, C++, C++14, Clojure, C#, D, Erlang, F#, Go, Groovy, Haskell, Java, Java 8, JavaScript(Rhino), JavaScript(Node.js), Julia, Kotlin, Lisp, Lisp (SBCL), Lua, Objective-C, OCaml, Octave, Pascal, Perl, PHP, Python, Python 3, R(RScript), Racket, Ruby, Rust, Scala, Swift, Swift-4.1, Visual Basic

#include <iostream>

using namespace std;

int main()

{

int a,b,c;

int flag=0;

cin>>a>>b>>c;

int num=a;

while(num<=b)

{

if(num==b)

{

flag=1;

break;

}

num=num+c;

}

if(flag==1)

cout<<"YES"<<endl;

else

cout<<"NO"<<endl;

return 0;

}