

Problem M

Tennis Game

Tennis is a racket sport that is played by two opposing players on S sets. Each set consists of at least K games. A set is won by a player if that player wins at least K games and at least 2 games more than the opponent. Once a set is won, the set is ended and the match continues to a new set (if any) where both players start from 0 game won for that new set.

For example, let $K = 6$, then a set can be ended with any of the following.

- P1 (Player 1) wins 6 games while P2 (Player 2) wins 3 games \rightarrow P1 wins the set.
- P1 wins 7 games while P2 wins 9 games \rightarrow P2 wins the set.

On the other hand, a set cannot be ended with any of the following.

- P1 wins 6 games while P2 wins 5 games \rightarrow no player wins at least 2 games more than the opponent.
- P1 wins 0 game while P2 wins 5 games \rightarrow no player wins $K = 6$ games.
- P1 wins 7 games while P2 wins 0 games \rightarrow the set is already ended when P1 won the first 6 games.
- P1 wins 8 games while P2 wins 5 games \rightarrow the set must already be ended before it reaches this state, e.g., the set can be ended at 7 – 5, 6 – 4, 6 – 3, etc.

You are given K , S and N , determine whether there could be such a tennis match with S sets to ends exactly with N games. If there is such a tennis match, then output “YES” (without quotes) in a single line, otherwise, output “NO” (without quotes) in a single line.

For example, let $K = 4$, $S = 2$, and $N = 14$. It is possible to have such a tennis match. One the possibilities is as follows.

- Set 1: P1 wins 6 games while P2 wins 4 games.
- Set 2: P1 wins 4 games while P2 wins 0 games.

There are a total of $N = 6 + 4 + 4 + 0 = 14$ games on $S = 2$ sets where each set is won if a player won at least $K = 4$ games and at least 2 games more than the opponent.

Input

Input contains three integers K S N ($2 \leq K \leq 10^9$; $1 \leq S, N \leq 10^9$) in a line representing the minimum number of games to win a set, the total number of sets, and the total number of games, respectively.

Output

Output in a line a string “YES” or “NO” (without quotes) whether it is possible to have such a tennis match.

Sample Input #1

4 2 14

Sample Output #1

YES

Explanation for the sample input/output #1

This is the example from the problem description.

Sample Input #2

3 1 2

Sample Output #2

NO

Explanation for the sample input/output #2

To win a set, a player should win at least 3 games. In this case, the match cannot be ended with exactly 2 games.

Sample Input #3

6 5 181

Sample Output #3

YES

Explanation for the sample input/output #3

One example match is as follows.

- Set 1: P1 wins 6 games while P2 wins 4 games.
- Set 2: P1 wins 3 games while P2 wins 6 games.
- Set 3: P1 wins 5 games while P2 wins 7 games.
- Set 4: P1 wins 7 games while P2 wins 5 games.
- Set 5: P1 wins 70 games while P2 wins 68 games.