



# Exact Payment

Problem

Submissions

Leaderboard

Discussions

You have  $a$  coins of value  $n$  and  $b$  coins of value  $1$ . You always pay in exact change, so you want to know if there exist such  $x$  and  $y$  that if you take  $x$  ( $0 \leq x \leq a$ ) coins of value  $n$  and  $y$  ( $0 \leq y \leq b$ ) coins of value  $1$ , then the total value of taken coins will be  $S$ .

You have to answer  $q$  independent test cases.

## Input Format

The first line of the input contains one integer  $q$  ( $1 \leq q \leq 10^4$ ) — the number of test cases. Then  $q$  test cases follow.

The only line of the test case contains four integers  $a, b, n$  and  $S$  ( $1 \leq a, b, n, S \leq 10^9$ ) — the number of coins of value  $n$ , the number of coins of value  $1$ , the value  $n$  and the required total value.

## Constraints

$$1 \leq q \leq 10^4 \quad 1 \leq a, b, n, S \leq 10^9$$

## Output Format

For the  $i$ -th test case print the answer on it — **YES** (without quotes) if there exist such  $x$  and  $y$  that if you take  $x$  coins of value  $n$  and  $y$  coins of value  $1$ , then the total value of taken coins will be  $S$ , and **NO** otherwise.

## Sample Input 0

```
4
1 2 3 4
1 2 3 6
5 2 6 27
3 3 5 18
```

## Sample Output 0

```
YES
NO
NO
YES
```

## Explanation 0

For the first case, choosing a 3-coin and a 1-coin will make 4. For the second case, the total available value is 5, so 6 cannot be made.

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Contest ends in 3 hours

Submissions: 258

Max Score: 30

Difficulty: Easy

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C++14   

```
1 #include <cmath>
2 #include <cstdio>
3 #include <vector>
4 #include <iostream>
5 #include <algorithm>
6 using namespace std;
7
8
9 int main() {
10     /* Enter your code here. Read input from STDIN. Print output to STDOUT */
11     return 0;
12 }
13
```

Line: 1 Col: 1

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