V - Kana and Dragon Quest game

Kana was just an ordinary high school girl before a talent scout discovered her. Then, she became an idol. But different from the stereotype, she is also a gameholic.

One day Kana gets interested in a new adventure game called *Dragon Quest*. In this game, her quest is to beat a dragon.



The dragon has a *hit point* of x initially. When its *hit point* goes to 0 or under 0, it will be defeated. In order to defeat the dragon, Kana can cast the two following types of spells.

* Void Absorption

Assume that the dragon's current *hit point* is h*h*, after *casting* this spell its *hit point* will become [h/2] +10. Here [h/2] denotes h divided by two, rounded down.

* Lightning Strike

This spell will decrease the dragon's *hit point* by 10. Assume that the dragon's current *hit point* is *h*, after *casting* this spell its *hit point* will be lowered to h-10.

Due to some reasons Kana can only *cast* **no more than** n Void Absorptions and m Lightning Strikes. She can cast the spells in any order and **doesn't have to** cast all the spells. Kana isn't good at math, so you are going to help her to find out whether it is possible to defeat the dragon.

**Input**

The first line contains a single integer t (1≤*t*≤1000)  — the number of test cases.

The next *t* lines describe test cases. For each test case the only line contains three integers x, n, m (1≤*x*≤105, 0≤*n*, *m*≤30)  — the dragon's intitial *hit point*, the maximum number of Void Absorptions and Lightning Strikes Kana can *cast* respectively.

**Output**

If it is possible to defeat the dragon, print "YES" (without quotes). Otherwise, print "NO" (without quotes).

You can print each letter in any case (upper or lower).

**Example**

**Input**

7

100 3 4

189 3 4

64 2 3

63 2 3

30 27 7

10 9 1

69117 21 2

**Output**

YES

NO

NO

YES

YES

YES

YES

**Note**

One possible casting sequence of the first test case is shown below:

* Void Absorption ⌊100/2​⌋+10=60.
* Lightning Strike 60-10=50.
* Void Absorption ⌊50/2​⌋+10=35.
* Void Absorption ⌊35/2​⌋+10=27.
* Lightning Strike 27−10=17.
* Lightning Strike 17−10=7.
* Lightning Strike 7−10=−3.