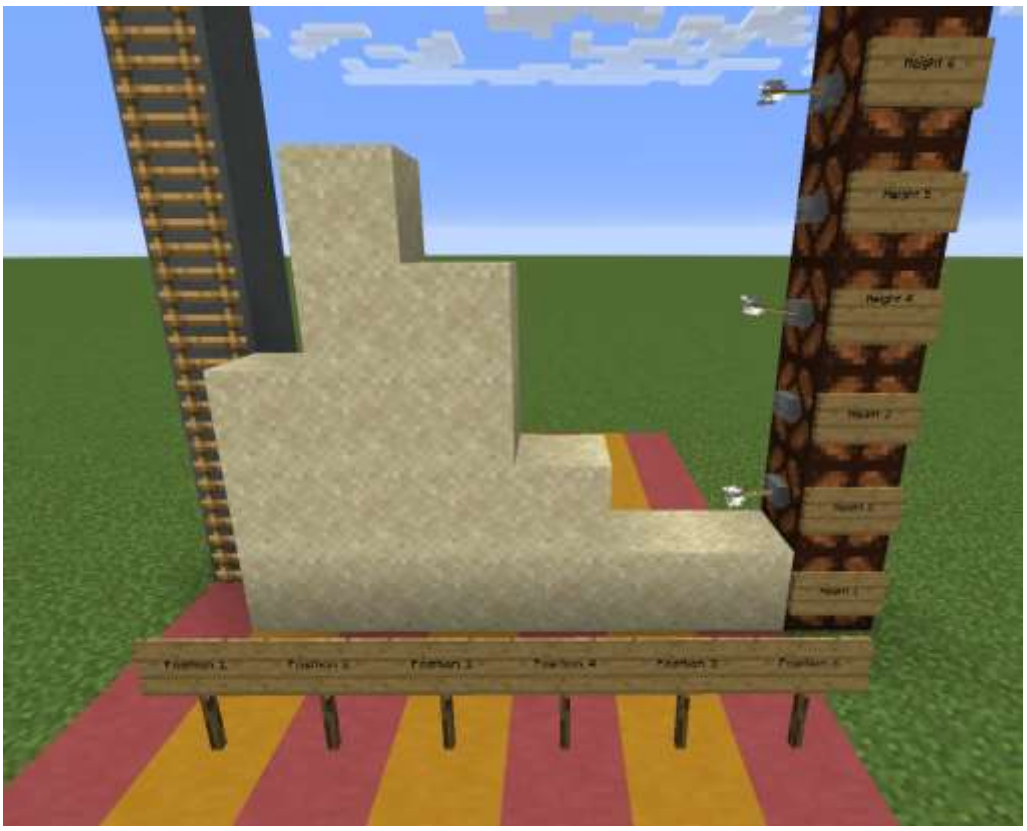
Problem G: Snake and Ladders

Filename: `snake`
Time Limit: `5 seconds`

You are a big fan of the video game character Solid Snake, so you are practicing your Minecraft PvP skills and ladder climbing in hopes of training to be as good as he is. Today you plan to shoot arrows at buttons at different heights. In your shooting range, there is a ladder on the left side and targets on the right, with **n** blocks separating them. **q** times, you will climb up or down the ladders until you are level with the target you wish to shoot, and then shoot an arrow straight across from left to right at the desired target.

One of your friends on the server who enjoys pulling pranks, has just crafted an invisibility potion and, in an attempt to troll you, will drop a single piece of sand above each position from $\mathbf{l_i}$ to $\mathbf{r_i}$ in the shooting range before each shot you make. The sand will fall straight down from where it is dropped, taking up one block of space when it lands. You would like to know, for each shot, whether you will be able to hit the desired target, or whether you will instead hit a block of sand. Initially the range is flat and all blocks are height 0. The sand will land before you are able to shoot.



The state of the range after all events are complete in the sample. Arrows indicate buttons that were hit.

Problem

Given **n** times in which sand is dropped in the range l_i to r_i and the height h_i of the target you would like to hit, determine whether your shot will hit the target or a block of sand

Input

The first line contains an integer, ***c,*** the number of test cases to follow. Each testcase will start with two integers **n** and **q**: the size of the range and the number of events. The following q lines of each testcase will contain three integers: the leftmost and rightmost index that your friend will drop a piece of sand in, and the height of the target you wish to shoot.

Output

For each event, print a new line containing either “hit” or “blocked” depending on whether you will be able to hit your target.

Input Bounds and Corresponding Credit

20 Points	80 Points
• $1 \le c \le 10$ • $1 \le n, q \le 3*10^5$ • $1 \le l_i \le r_i \le n$ • $1 \le h_i \le 10^6$ • $r_i - l_i \le 30$ for each query	• $1 \le c \le 10$ • $1 \le n, q \le 3*10^5$ • $1 \le l_i \le r_i \le n$ • $1 \le h_i \le 10^6$

Samples

Input	Output
1 6 7 2 3 2 1 2 2 1 1 4 2 2 3 3 3 3 1 6 4 2 4 6	hit blocked hit blocked blocked blocked hit