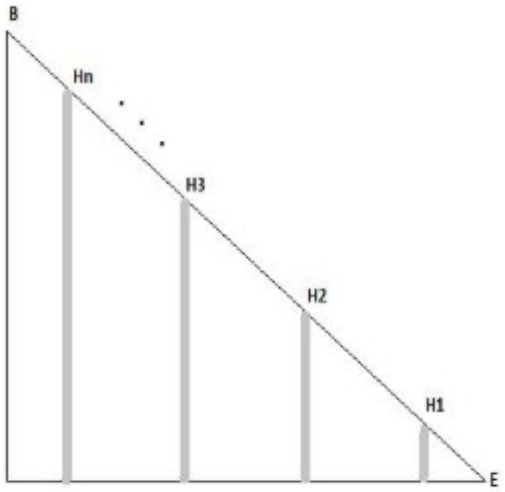
Problem-1

A man is doing an experiment with the dev ice that he built newly. The structure of the device is as below diagram .



B to E is a sloping surface with n holes, labelled Hl , HZ. ... Hn, on it. Holes are of' dirfferent diameters and depths. The man is releasing m number of balls of differ,ent diameters from the point B one after the other. He needs to find he· positions of each ball after the experiment.

The specialties of the device are:

A ball will fall into a hole, if its diameter is less than or equal to the diameter of the hole.

A hole Hi will become full, if i numbers of balls fall into i1. For examp,le hole la.belled H3 w ill become full if 3 balls fall into it

If a hole is full,then no more balls fall into it.

A ball will reach the bottom point E from B, if and only if i1is not fa lling into any one of the holes.

Please help him in finding the eventual position of the balls. If a ball is in hole Pl,t hentake its position as i. If a ball reached the bottom point E,then take Its position as 0.

INPUT FORMAT:

line 1: :total number of holes, **N**
line 2: N space separated integers denoting the diameters of N holes,from bottom to top
line 3: total number of balls, M
line4: M space separated integers denoting the diameters of balls in the order of release.

OUTPUT FORMAT:

line 1! : Positions of each ball in the order of ball release separated by space

EXPLANATION:

Example **1**

INPUT

3
21 3 6
11
20 15 5 7 10 4 2 1 3 6 8

OUTPUT

1 0 3 0 1 3 3 2 2 0 1
Explanation

3 holes are there labe.lled **H1,** H2, and H3 of diameters 211 ,3, and 6 respect ively. 11 balls are released from the point B in the order provided in the input i.e.. { 20, 15, 5, 7 ..., 5}. Ball of diameter 20 will fall into the hole H1 and the hole H1: will become full. Balls 15, 7 and 1o will r.each bottom since hole Hl is ·full and diameters of holes H2 and H3 are less than balls diameter . Balls 5, **4 ,** and 2 w ill fall into t!'le hole H3. Ball 1 will fall into the hole H2 since the hole H3 is already full. Ball 3 will fall into hole H2. Balls 6,and 8 will reach at tne bonom point E. The position of ball 20 .Is 1 because it is in hole Hl. Positions of ball 15,7, 10, 3, 6, and 8 are 0 because they reached bottom point E. Positions of 5, 4, and2 are 3 because they are in hole H3. Position of' Ball 1 and Ball 3 is 2.

@github.com/Srisai-Peddapati