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ACM International Collegiate Programming Contest 2008

South American Regional Contests

November 14th-15th, 2008

Warmup Session

This problem set contains 2 problems; pages are numbered from 1 to 3.

This problem set is used in simultaneous contests hosted in the following countries:

- Argentina
- Bolivia
- Brazil
- Chile
- Colombia
- Peru
- Venezuela

Problem A
Og

Source file name: `og.c`, `og.cpp` *or* `og.java`

Og is a caveman with many children, and he wants to count them all. Og counts his sons with his left hand and his daughters with his right hand.

However, Og is very dumb, and can't add the two counts, so he asked you to write him a program that will do the addition.

Input

The input contains several test cases. Each test case consists of a single line containing two integers L and R, separated by a single space, indicating respectively the number of sons and daughters ($1 \leq L, R \leq 5$).

The end of input is indicated by a line containing only two zeros, separated by a single space.

The input must be read from standard input.

Output

For each test case in the input print a line containing a single integer indicating how many children Og has.

The output must be written to standard output.

Sample input	**Output for the sample input**
2 2 2 3 5 5 1 1 0 0	4 5 10 2

Problem B
He is offside!

Source file name: `he.c`, `he.cpp` *or* `he.java`

Hemisphere Network is the largest television network in Tumbolia, a small country located east of South America (or south of East America). The most popular sport in Tumbolia, unsurprisingly, is soccer; many games are broadcast every week in Tumbolia.

Hemisphere Network receives many requests to replay dubious plays; usually, these happen when a player is deemed to be offside by the referee. An attacking player is *offside* if he is nearer to his opponents' goal line than the second last opponent. A player is not offside if

- he is level with the second last opponent or
- he is level with the last two opponents.

Through the use of computer graphics technology, Hemisphere Network can take an image of the field and determine the distances of the players to the defending team's goal line, but they still need a program that, given these distances, decides whether a player is offside.

Input

The input file contains several test cases. The first line of each test case contains two integers A and D separated by a single space indicating, respectively, the number of attacking and defending players involved in the play ($2 \leq A, D \leq 11$). The next line contains A integers B_i separated by single spaces, indicating the distances of the attacking players to the goal line ($1 \leq B_i \leq 10^4$). The next line contains D integers C_j separated by single spaces, indicating the distances of the defending players to the goal line ($1 \leq C_j \leq 10^4$).

The end of input is indicated by a line containing only two zeros, separated by a single space.

The input must be read from standard input.

Output

For each test case in the input print a line containing a single character: "`Y`" (uppercase) if there is an attacking player offside, and "`N`" (uppercase) otherwise.

The output must be written to standard output.

Sample input	**Output for the sample input**
2 3 500 700 700 500 500 2 2 200 400 200 1000 3 4 530 510 490 480 470 50 310 0 0	N Y N