

# ASTU ICPC CLUB

## prob: invalid number

so I have a program that changes binary inputs to any base I like . I am so tired and I think I saw a 2 in a binary output . Which shouldn't have happened .. can you help me find out if there are irregularities in my output given the base and the output

### Input:

Each line of input provides the base  $b$  followed by a space followed by a number with up to 50 digits.  $b$  will be between 2 and 10, inclusive. The number will only have digits from 0 to 9. Input ends with a line giving  $b = 1$  and 0 for the number.

### Output:

For each line of input, except the  $b = 1$  line, print either "valid" (without quotes) if the number is valid in base  $b$ , or print "there's no such thing as  $d$ ", if the number is invalid and where  $d$  is the invalid digit. A number may have multiple invalid digits. Print the first that is invalid when reading the number from left to right.

### Sample Input:

```
2 1001111
2 1002001
10 12334566775839
3 30
1 0
```

### Sample Output:

```
valid
there's no such thing as 2
valid
there's no such thing as 3
```