Problem 3 - Integer Palindrome

A Palindrome is literary term when a phrase is spelled the same forwards and backwards. "Never odd or even", "Rise to Vote Sir", and "Go hang a salami; I'm a lasagna hog" are examples of palindromes. A palindrome may be an integer as well. For example: 5, 11, 343, 54345 are considered palindromes because their digits can be read backwards and forwards.

A numeral system (or system of numeration) is a writing system for expressing numbers, that is a mathematical notation for representing numbers of a given set, using graphemes or symbols in a consistent manner. For example, base 10 are represented by digits 0-9, base 2 (or binary) contain digits 0 and 1.

The Task is to take a given positive base-10 number, convert that number to another base system, and see if that number is a palindrome in the other base system.

Key Points

- A check number is the base-10 number that is to be transformed to the base specified by the second input parameter.

- The check number will always be in base 10.

- A base number is an integer that represents how many numbers used in a number system. For example, base 2 would be represented as 1s and 0s (binary); and Base ten is a 0-9 number system.

- For any base systems greater than 10 (i.e. Base 27), extra digit values are represented (in order) by letters A-Z, followed by a-z. Base 16, for example will be represented by (0-9 then A-F, with a base 16 value of F representing the base 10 equivalent value of 15).

- The check number will be converted to a base system that is represented by the base number.

- Once the check number is converted the palindrome test will be conducted.

- Error checking will be done on each pair of numbers prior to palindrome testing.

Input

The Input will consist of 2 base-10 numbers delimitated by a single space. The first number is the check number, and the second number is the base number.

Output

The output will consist of a line of text that will either show the results of the palindrome test, or report an error. This line of text will have only single spaces between words and after punctuation. If the input

line passes the error check, an output of the palindrome test is to be made. The allowed outputs must conform to the following (Note '##' below will be replaced by actual values in the final output):

1. ## in base# is ## - Yes
2. ## in base# is ## - No
3. Error: Check number is not a positive base10 number.
4. Error: Base number is not a positive base10 number.
5. Error: Invalid number of arguments. Expected 2 numbers for input.
6. Error: Base ## is an unsupported base system. Maximum Base system is Base 62.

Sample Input

100 10
2409 2
A 1
251 37
130 42
1 A
3887 16
12
13 4 12
33 64

Sample Output

100 in base10 is 100 - No
2409 in base2 is 100101101001 - Yes
Error: Check number is not a positive base10 number
251 in base37 is 6T - No
130 in base42 is 34 - No
Error: Base number is not a positive base10 number.
3887 in base 16 is F2F - Yes
Error: Invalid number of arguments. Expected 2 numbers for input.
Error: Invalid number of arguments. Expected 2 numbers for input.
Error: Base 64 is an unsupported base system. Maximum Base system is Base 62.