A string s is considered to be a *super palindrome* of rank k, if each prefix of s of length i = k \* 2j for all positive j is a [palindrome](keyword://palindrome).

Given a string s, determine whether it's a *super palindrome* of rank k or not.

*Fun fact: You can do this in one pass over s!*

**Example**

* For s = "10011001" and k = 2, the output should be  
  isSuperPalindrome(s, k) = true.
  + The prefix of length 4 is "1001", which is a palindrome;
  + The prefix of length 8 is "10011001", which is also a palindrome.

Thus, the answer is true.

* For s = "www" and k = 1, the output should be  
  isSuperPalindrome(s, k) = true.

A *super palindrome* of *rank* 1 should consist of only one character. Since this is the case, the answer is true.

* For s = "654neveroddoreven456" and k = 5, the output should be  
  isSuperPalindrome(s, k) = false.

Although s is a *palindrome*, it's not a *super palindrome* of rank 5, since "654neverod"is not a *palindrome*.

**Input/Output**

* **[time limit] 3000ms (cs)**
* **[input] string s**

A string consisting of digits and lowercase English letters. It is guaranteed that the length of s can be represented in the format k \* 2j for some positive j.

*Guaranteed constraints:*  
1 ≤ s.length ≤ 106.

* **[input] integer k**

The *rank* of the *super palindrome*.

*Guaranteed constraints:*  
1 ≤ k ≤ n / 2.

* **[output] boolean**

Return true if s is a *super palindrome* of rank k, otherwise return false.

<https://codefights.com/challenge/HRfkmH66XAMDBfcAd>

using System;

using System.Collections.Generic;

using System.Linq;

using System.Text;

namespace ConsoleApplication2

{

class Program

{

static bool isSuperPalindrome(string s, int k)

{

//i = k \* 2j

int len = k \* (int)Math.Pow(2, 1);

for (int j = 2; len <= s.Length; j++)

{

string subs = s.Substring(0, len);

char[] rev = subs.ToCharArray();

Array.Reverse(rev);

if (new string(rev) != subs)

{

return false;

}

len = k \* (int)Math.Pow(2, j);

}

return true;

}

static void Main(string[] args)

{

//string s = "654neveroddoreven456";

//Console.WriteLine(s.Length);

//char[] ch = s.ToCharArray();

//Array.Reverse(ch);

//Console.WriteLine(new string(ch) == s);

//string s= "10011001";

//int k = 2;

string s= "25iwiw52";

int k = 4;

Console.WriteLine(isSuperPalindrome(s, k));

Console.ReadLine();

}

}

}