



# Dual Palindromes

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A number that reads the same from right to left as when read from left to right is called a palindrome. The number 12321 is a palindrome; the number 77778 is not. Of course, palindromes have neither leading nor trailing zeroes, so 0220 is not a palindrome.

The number 21 (base 10) is not palindrome in base 10, but the number 21 (base 10) is, in fact, a palindrome in base 2 (10101).

Write a program that reads two numbers (expressed in base 10):

- $N$  ( $1 \leq N \leq 15$ )
- $S$  ( $0 < S < 10000$ )

and then finds and prints (in base 10) the first  $N$  numbers strictly greater than  $S$  that are palindromic when written in two or more number bases ( $2 \leq \text{base} \leq 10$ ).

Solutions to this problem do not require manipulating integers larger than the standard 32 bits.

**PROGRAM NAME:** dualpal

**INPUT FORMAT**

A single line with space separated integers  $N$  and  $S$ .

**SAMPLE INPUT**

3 25

**OUTPUT FORMAT**

N lines, each with a base 10 number that is palindromic when expressed in at least two of the bases 2..10. The numbers should be listed in order from smallest to largest.

### **SAMPLE OUTPUT**

26  
27  
28