**Q. Complete n-Digit Factor**

A number is said to be a complete ‘n’ digit factor, if it is a factor of all ‘n’ digit numbers when concatenated (joined to right) to itself.

For example, 7 is a complete 3-digit factor as it divides all three-digit numbers from 100 to 999 when concatenated to itself (i.e. 100100, 101101,102102, ... ..., 998998, 999999).

Given the value of n and m, write a code to generate all numbers from 2 to m (both inclusive) that are complete n-digit factor and print ‘No complete factors’ otherwise.

For example, if n is 3 and m is 15 then print 7, 11, 13 and if n is 3 and m is then print ‘No complete factors’

Boundary Conditions: 2<n<9

Note: The code needs to optimized to complete execution within the time bound given for the problem

Input Format

First line contains the number of digits, n

Next line contains the maximum value of m that has to be checked for Complete n-Digit Factor

Output Format

Print each Complete n-Digit Factor in one line and print No complete factors otherwise

**Python Program**

n = int(input())  
m = int(input())  
boolean2 =False  
for i in range(2,m+1):  
 boolean1 = True  
 for j in range((10\*\*(n-1)),(10\*\*n)):  
 j = int(str(j)\*2)  
 if (j%i!=0):  
 boolean1 = False  
 break  
 if boolean1 == True:  
 print(i)  
 boolean2 = True  
if boolean2 == False:  
 print(**'No complete factors'**)

**Alternative Python Program**

n = int(input())  
m = int(input())  
counter2 = 0  
for i in range(2,m+1):  
 counter1 = 0  
 for j in range(1\*(10\*\*(n-1)),1\*(10\*\*(n))):  
 j = int(str(j)\*2)  
 if (j%i==0):  
 counter1 += 1  
 if (counter1 == (1\*(10\*\*(n)))-(1\*(10\*\*(n-1)))):  
 print(i, end=**" "**)  
 counter2 += 1  
if (counter2 == 0):  
 print(**'No complete factors'**)

**Alternative Python Program**

n = int(input())  
m = int(input())  
boolean2 =False  
for i in range(2,m+1):  
 boolean1 = True  
 for j in range((10\*\*(n-1)),(10\*\*n)):  
 j = j \* ((10\*\*n) + 1)  
 if (j%i!=0):  
 boolean1 = False  
 break  
 if boolean1 == True:  
 print(i)  
 boolean2 = True  
if boolean2 == False:  
 print(**'No complete factors'**)