# =============================================================================  
# Project: Python Problems  
#  
# Program Name: Leap Year  
#  
# Author: Narayan Rahul Bhamidipati  
#  
# Date Created: 6/7/2022  
#  
# Purpose: Write a program to check whether the a year is leap year or not  
#  
# Input: Year  
#  
# Output: "Yes" or "No"  
# =============================================================================  
year = int(input("input a year- "))  
if year % 4 == 0:  
 if year % 100 == 0:  
 if year % 400 == 0:  
 print("yes")  
 else:  
 print("no")  
 else:  
 print("yes")  
  
else:  
 print("no")  
  
# =============================================================================  
# Project: Python Problems  
#  
# Program Name: Problems for Internship.py  
#  
# Author: Narayan Rahul Bhamidipati  
#  
# Date Created: 6/10/2022  
#  
# Purpose: Binary Calculator  
#  
# Input: Binary Number  
#  
# Output: Decimal number corresponding to the inputted binary number  
# =============================================================================  
binary = input("enter a series of 1s and 0s- ")  
n = 0  
decimal = -1  
sums = 0.0000  
if binary.count(".") < 1:  
 for x in range(len(binary) - 1, -1, -1):  
 if binary[x] == "1":  
 sums += 2 \*\* n  
 n += 1  
 elif binary[x] == "0":  
 n += 1  
 elif binary[x] == ".":  
 break  
else:  
 distance = len(binary) - 1 - binary.index(".")  
 print(distance)  
 for x in range(len(binary) - 1, binary.index("."), -1):  
 if binary[x] == "1":  
 sums += 2 \*\* (-1 \* distance)  
 distance -= 1  
 else:  
 distance -= 1  
 for x in range(binary.index("."), -1, -1):  
 if binary[x] == "1":  
 sums += 2 \*\* n  
 n += 1  
 elif binary[x] == "0":  
 n += 1  
print(sums)  
  
  
# =============================================================================  
# Project: Python Problems  
#  
# Program Name: Palindrome  
#  
# Author: Narayan Rahul Bhamidipati  
#  
# Date Created: 6/15/2022  
#  
# Purpose: Write a program input number to check whether the number is Palindrome or not  
#  
# Input: Number  
#  
# Output: "is palindrome" or "not palindrome"  
# =============================================================================  
n = input("enter a number")  
y = 0  
for x in range(len(n) - 1, -1, -1):  
 y = int(n[x]) \* (10 \*\* x) + y  
if int(n) == y:  
 print("is palindrome")  
else:  
 print("not palindrome")  
  
# =============================================================================  
# Project: Python Problems  
#  
# Program Name: Adam's Number  
#  
# Author: Narayan Rahul Bhamidipati  
#  
# Date Created: 6/15/2022  
#  
# Purpose: Write a program input number to check whether the number is Adams number or not  
#  
# Input: Number  
#  
# Output: "Adam's Number" or "Not Adam's Number"  
# =============================================================================  
n = input("enter a number")  
square = int(n) \* int(n)  
y = 0  
for x in range(len(n) - 1, -1, -1):  
 y = int(n[x]) \* (10 \*\* x) + y  
squareReverse = str(y \*\* 2)  
newY = 0  
for x in range(len(squareReverse) - 1, -1, -1):  
 newY = int(squareReverse[x]) \* (10 \*\* x) + newY  
if newY == square:  
 print("Adam's Number")  
else:  
 print("Not Adam's Number")  
  
# =============================================================================  
# Project: Python Problems  
#  
# Program Name: GCD  
#  
# Author: Narayan Rahul Bhamidipati  
#  
# Date Created: 6/15/2022  
#  
# Purpose: Write a program to find the GCD of two numbers  
#  
# Input: Number  
#  
# Output: the GCD  
# =============================================================================  
a = int(input("enter a number"))  
b = int(input("enter a number"))  
mini = 0  
if a > b:  
 mini = b  
else:  
 mini = a  
for x in range(mini, 0, -1):  
 if a % x == 0 and b % x == 0:  
 print(x)  
 break  
  
  
# =============================================================================  
# Project: Python Problems  
#  
# Program Name: Alphabetical Order  
#  
# Author: Narayan Rahul Bhamidipati  
#  
# Date Created: 6/16/2022  
#  
# Purpose: Write a program Input string in alphabetical order.  
#  
# Input: String of letters  
#  
# Output: The orginal string of letters in alphabetical order  
# =============================================================================  
s = input("input a string")  
newstring = ""  
while len(s) > 0:  
 newstring = s[s.index(max(s))] + newstring  
 s = s[0:s.index(max(s))] + s[s.index(max(s)) + 1:len(s)]  
print(newstring)  
  
# =============================================================================  
# Project: Python Problems  
#  
# Program Name: Number of Palindromes  
#  
# Author: Narayan Rahul Bhamidipati  
#  
# Date Created: 7/7/2022  
#  
# Purpose: Write a program input string to find the number of palindromes in a String  
#  
# Input: Series of words  
#  
# Output: Number of palindromes  
# =============================================================================  
s = input("input a string").split()  
palindrome = 0  
for y in range(0, len(s), 1):  
 new = ""  
 for x in range(len(s[y]) - 1, -1, -1):  
 new += s[y][x]  
 if new == s[y]:  
 palindrome += 1  
print("palindrome" + str(palindrome))  
  
# =============================================================================  
# Project: Python Problems  
#  
# Program Name: Reverse String  
#  
# Author: Narayan Rahul Bhamidipati  
#  
# Date Created: 7/7/2022  
#  
# Purpose: Write a program input string to each word reverse in a String  
#  
# Input: String of letters  
#  
# Output: Original string of letters but in reverse  
# =============================================================================  
s = input("input a string").split()  
new = ""  
for y in range(0, len(s), 1):  
 for x in range(len(s[y]) - 1, -1, -1):  
 new += s[y][x]  
 new += " "  
print(new)