#1 Write a program that accepts two numbers from the user and displays their sum, product, and division using f-strings.

# n1=int(input("Enter Num1: "))

# n2=int(input("Enter Num2: "))

# print("Sum: ",n1+n2)

# output:

# Enter Num1: 2

# Enter Num2: 2

# Sum:  4

#2 Take a list of integers from the user and print only the unique elements using a set.

# l=list(map(int,input("Enter elements: ").split(" ")))

# l=set(l)

# print(l)

# output:

# Enter elements: 1 2 3 1 2 3 4 5 6 7 8

# {1, 2, 3, 4, 5, 6, 7, 8}

#3 Write a program to generate the following pattern for a given input n:

# 1

# 12

# 123

# 1234

# for i in range(1,5):

#     for j in range(1,i+1):

#         print(j,end="")

#     print("")

# output:

# 1

# 12

# 123

# 1234

#4 Take a dictionary as input where keys are student names and values are their scores. Print the name of the student with the highest score.

# n=int(input("Enter no. of students: "))

# d={}

# for i in range(n):

#    name=input("Enter name: ")

#    score=int(input("Enter no: "))

#    d.update({name:score})

# print(d)

# m=max(d.values())

# for k,v in d.items():

#    if(v==m):

#       print(k,v)

#       break

# output:

# Enter no. of students: 3

# Enter name: lavanya

# Enter no: 56

# Enter name: samarth

# Enter no: 80

# Enter name: priya

# Enter no: 45

# {'lavanya': 56, 'samarth': 80, 'priya': 45}

# samarth 80

#5 Write a program to check if a given number is a prime number or not using conditional statements.

# n=int(input("Enter no: "))

# f=1

# for i in range(2,n):

#    if (n%i==0):

#       f=0

#       break

# if(f):

#    print(n,"Prime")

# else:

#    print(n,"Not Prime")

# output:

# Enter no: 24

# 24 Not Prime

# Enter no: 13

# 13 Prime

# Enter no: 2

# 2 Prime

#6 Create a program that accepts a list of strings and counts how many times each string appears in the list.

# l=list(map(str,input("Enter Strings: ").split(" ")))

# print(l)

# d={}

# for i in l:

#        d.update({i:l.count(i)})

# print(d)

# output:

# {'lavanya': 2, 'samarth': 2, 'priya': 1, 'raj': 1}

#7 Write a program to print the union and intersection of two sets given by the user.

# s1=set(list(map(int,input("Enter Elements in s1: ").split(" "))))

# s2=set(list(map(int,input("Enter Elements in s2: ").split(" "))))

# print("Intersection:",s1.intersection(s2))

# print("Union: ",s1.union(s2))

# output:

# Enter Elements in s1: 1 2 3

# Enter Elements in s2: 2 3 4

# Intersection: {2, 3}

# Union:  {1, 2, 3, 4}

#8 Write a program to take a number as input and print its multiplication table up to 10 using a loop.

# n=int(input("Enter no: "))

# for i in range(1,11):

#     print(n,'X',i,'=',n\*i)

# output:

# Enter no: 5

# 5 X 1 = 5

# 5 X 2 = 10

# 5 X 3 = 15

# 5 X 4 = 20

# 5 X 5 = 25

# 5 X 6 = 30

# 5 X 7 = 35

# 5 X 8 = 40

# 5 X 9 = 45

# 5 X 10 = 50

#9 Take a string as input, reverse it using a string method, and check if it is a palindrome.

# there is no function for string to reverse

# s=input("Enter String: ")

# r="".join(reversed(s))

# if s==r:

#  print('palindrome')

# else:

#  print('not palindrom')

# output:

# Enter String:

# lavanya

# not palindrom

# palindrome

#10 Create a tuple of integers provided by the user, and then find and print the maximum and minimum values.

# t=tuple(map(int,input("enter elements: ").split(" ")))

# print("Maiximum:",max(t),"Minimum:",min(t))

# output:

# enter elements: 10 20 30 40 1 2 3 5678

# Maiximum: 5678 Minimum: 1

#11 Write a program to print the first n Fibonacci numbers, where n is provided by the user.

# n=int(input("Enter Number: "))

# n1=0

# n2=1

# print(n1,n2,end=" ")

# for i in range(2,n):

#     c=n1+n2

#     print(c,end=" ")

#     n1=n2

#     n2=c

# output:

# Enter Number: 5

# 0 1 1 2 3

#12 Take a number as input and check if it is an Armstrong number

n=input('Enter Number: ')

l=len(n)

ar=0

# for i in range(len(n)):

#13 Write a program that accepts a list of numbers and uses list comprehension to print only the even numbers.

# l=[1,20,30,40,1,2,4,89]

# l2=[i for i in l if i%2==0]

# print(l2)

# output:

# [20, 30, 40, 2, 4]

#14 Write a program using nested loops to generate the following pattern for a given input n:

# markdown

#     \*

#    \*\*\*

#   \*\*\*\*\*

#15 Take a string as input and count the number of vowels in it using a combination of string methods and list comprehension.

# s=input("Enter String: ")

# v='aioueAIOUE'

# c=0

# for i in s:

#     if i in v:

#         c+=1

# print(c)

# output:

# Enter String: lavanya

# 3

#16 Write a program that accepts a sentence from the user and returns a dictionary where the keys are words and the values are their lengths.

# s=input("Enter String: ")

# l=s.split(" ")

# d={i:len(i) for i in l }

# print(d)

# output:

# Enter String: hello all am lavanya

# {'hello': 5, 'all': 3, 'am': 2, 'lavanya': 7}

#17 Create a list of integers from 1 to 20 using list comprehension and then create another list containing only the squares of even numbers from the original list.

# l=[i for i in range(1,11)]

# l2=[i\*\*2 for i in l if i%2==0]

# print(l2)

# output:

# [4, 16, 36, 64, 100]

#18 Write a program that takes a sentence as input, converts it to title case, and removes any extra spaces using string methods.

# l=input("Enter String: ")

# t=l.title()

# print(t.strip())

# output:

# Enter String:                          hello all welcome to py

# Hello All Welcome To Py

#19 Write a program to count the frequency of each character in a string, ignoring spaces, and print the result as a dictionary.

# s=input("Enter string: ").strip()

# d={k:s.count(k) for k in s}

# print(d)

# output:

# Enter string:        lavanya

# {'l': 1, 'a': 3, 'v': 1, 'n': 1, 'y': 1}

#20 Use list comprehension to flatten a 2D list entered by the user into a 1D list.

# l=[10,[20,30],40,50,[60]]

# l2=[]

# for i in l:

#     if type(i)==list:

#         for j in i:

#             l2.append(j)

#     else:

#         l2.append(i)

# print(l2)

# output:

# [10, 20, 30, 40, 50, 60]