Question1. Create a function that takes three arguments a, b, c and returns the sum of the numbers that are evenly divided by c from the range a, b inclusive.

**Examples**

evenly\_divisible(1, 10, 20) ➞ 0

# No number between 1 and 10 can be evenly divided by 20.

evenly\_divisible(1, 10, 2) ➞ 30

# 2 + 4 + 6 + 8 + 10 = 30

evenly\_divisible(1, 10, 3) ➞ 18

# 3 + 6 + 9 = 18

def sumDivisibles(a, b, c):

sum = 0

for i in range(a, b + 1):

if (i % c == 0):

sum += i

return sum

a = int(input('Enter a : '))

b = int(input('Enter b : '))

c = int(input('Enter c : '))

print(sumDivisibles(a, b, c))

Question2. Create a function that returns True if a given inequality expression is correct and False otherwise.

### Examples

correct\_signs("3 < 7 < 11") ➞ True

correct\_signs("13 > 44 > 33 > 1") ➞ False

correct\_signs("1 < 2 < 6 < 9 > 3") ➞ True

def correct\_signs ( txt ) :

return eval ( txt )

print(correct\_signs("3 > 7 < 11"))

print(correct\_signs("13 > 44 > 33 > 1"))

print(correct\_signs("1 < 2 < 6 < 9 > 3"))

Question3. Create a function that replaces all the vowels in a string with a specified character.

### Examples

replace\_vowels("the aardvark", "#") ➞ "th# ##rdv#rk"

replace\_vowels("minnie mouse", "?") ➞ "m?nn?? m??s?"

replace\_vowels("shakespeare", "\*") ➞ "sh\*k\*sp\*\*r\*"

def replace\_vowels(str, s):

vowels = 'AEIOUaeiou'

for ele in vowels:

str = str.replace(ele, s)

return str

input\_str = input("enter a string : ")

s = input("enter a vowel replacing string : ")

print("\nGiven Sting:", input\_str)

print("Given Specified Character:", s)

print("Afer replacing vowels with the specified character:",replace\_vowels(input\_str, s))

Question4. Write a function that calculates the **factorial** of a number **recursively**.

### Examples

factorial(5) ➞ 120

factorial(3) ➞ 6

factorial(1) ➞ 1

factorial(0) ➞ 1

def factorial(n):

if n == 0:

return 1

return n \* factorial(n-1)

num = int(input('enter a number :'))

print("Factorial of", num, "is", factorial(num))

**Question 5**

**Hamming distance** is the number of characters that differ between two strings.

To illustrate:

String1: "abcbba"

String2: "abcbda"

Hamming Distance: 1 - "b" vs. "d" is the only difference.

Create a function that computes the **hamming distance** between two strings.

### Examples

hamming\_distance("abcde", "bcdef") ➞ 5

hamming\_distance("abcde", "abcde") ➞ 0

hamming\_distance("strong", "strung") ➞ 1

def hamming\_distance(str1, str2):

i = 0

count = 0

while(i < len(str1)):

if(str1[i] != str2[i]):

count += 1

i += 1

return count

# Driver code

str1 = "abcde"

str2 = "bcdef"

# function call

print(hamming\_distance(str1, str2))

print(hamming\_distance('strong', 'strung'))

hamming\_distance('abcde', 'abcde')