**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**

**ANS:-**

**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))**

**Enter a : 1**

**Enter b : 10**

**Enter c : 3**

**18**

**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**

**ANS:-**

**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"))**

**False**

**False**

**True**

**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\*"**

**ANS:-**

**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))**

**enter a string : akash**

**enter a vowel replacing string : @**

**Given Sting: akash**

**Given Specified Character: @**

**Afer replacing vowels with the specified character: @k@sh**

**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**

**ANS:-**

**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))**

**enter a number :5**

**Factorial of 5 is 120**

**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**

**ANS:-**

**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))**

**5**

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

**1**

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

**0**