
Security and Networking with Python (CSE 2157)

MINOR ASSIGNMENT-4: Loop, Functions and String

1. Keep accepting integers as input from the user until the user enters a negative number. Print the maximum among the positive numbers entered by the user. Print 0 if the user doesn't enter any positive integer.
2. Print the smallest positive integer that is divisible by 2, 3 and 4, which is the same as the LCM of (2, 3, 4).
3. Find the number of ordered pairs of positive integers whose product is 100. Note that order matters: (2, 50) and (50, 2) are two different pairs.
4. Write a program which repeatedly reads integers until the user enters "done". Once "done" is entered, print out the total, count, and average of the integers. If the user enters anything other than a integers, detect their mistake using try and except and print an error message and skip to the next integers.
5. Write another program that prompts for a list of numbers as above and at the end prints out both the maximum and minimum of the numbers instead of the average.
6. Write a python program which takes a positive integer n from user and computes the recursive sum
$$\frac{1 + (1 + 2) + (1 + 2 + 3) + \dots + (1 + 2 + 3 + \dots + n)}{n}$$
7. Write a program to draw a rectangle of stars where the number of stars in length and width will be given by the user as width size and length size. For example if width=3 and length=8, then the pattern will be like

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* * * * *
*           *
* * * * *
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8. Write a function that takes a string as an input and determines the count of the number of words without using regular expression.
9. Write a python program to capitalize the first character of each word present in a string.
10. Write a python program to count the number of odd and even length words present in a string.
11. if the input string is :
 - a. test = 'Hello, How are you', then
 - b. Find the length of the above string
 - c. Print only 2 characters from the last word of the string
 - d. Find 'hello' in the above string
 - e. Change the lowercase letter to uppercase of the above string and vice versa, Check if the string is in uppercase or not
 - f. Separate the words of the string by a comma operator
 - g. Replace the word 'Hello' by 'Hi'

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12. Write a function that takes a string as a parameter and returns a string with every successive repetitive character replaced with a star(*).
For example,
'balloon'
is returned as
'bal*o*n'
 13. Write a function that takes two strings and returns *True* if they are anagrams and *False* otherwise. A pair of strings is anagrams if the letters in one word can be arranged to form the second one.
 14. Write a python program to replace that character, which is repeated maximum time in a given string by '-' (dash).
 15. Write a function that takes a sentence as an input parameter and displays the number of words in the sentence.
 16. Write a function that takes a sentence as an input parameter and replaces the first letter of every word with the corresponding uppercase letter and rest of the letters in the word by corresponding letters in lowercase without using built-in function.
 17. Write a python program to separate the according to the vowels present in the string.
For Ex: test = 'KlaGt'
Result: ['Kl', 'Gt']