积分不够看不了这个汇总贴，有分的请自行对照

<https://www.1point3acres.com/bbs/thread-558728-1-1.html>

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## 1 max occurring character

1. Maximum Occurring Character 
Given a string, return the character that appears the 
maximum number of times in the string. The string will 
contain only ASCII characters, from the ranges (IaI-'zI,IA'- 
'Z','01.191), and case matters. If there is a tie in the maximum 
number of times a character appears in the string, return 
the character that appears first in the string. 
For example, given the string text = abbbaacc, both a and 
b occur 3 times in text. Since a occurs earlier, a is the 
answer. 
Function Description 
Complete the function maximumOccurringCharacter in the 
editor below. The function must return the character that 
appears first in the string. 
maximumOccurringCharacter has the following parameter: 
text: the string to be operated upon 
Constraints 
4 
• 10 s length of texts 10 
All characters are alphanumeric, in the ranges ('al-IzI,IAI- 
Input Format For Custom Testing 
v Sample Case O 
Sample Input For Custom Testing 
helloworld 

def maximumOccurringCharacter(text) : 
# Write your code here 
count = { } 
for i in text: 
if i in count: 
count [i] 
1 
else: 
count [i] = 
1 
for i in text: 
if m < count [i]: 
m = count [i] 
return c 

## 2 consecutive sum

<https://leetcode.com/problems/consecutive-numbers-sum/>

2. Consecutive Sum 
Given a long integer, find the number of ways to represent 
it as a sum of two or more consecutive positive integers. 
For example, consider the number 21 . It can be expressed 
as the sums of [1, 2, 3, 4, 5, 6], [6, 7, 8] and [10, 11]. There 
are 3 ways to sum to 21 using consecutive positive integers. 
Function Description 
Complete the function consecutive in the editor below. The 
function must return an integer denoting the number of 
ways to represent num as a sum of two or more consecutive 
positive integers. 
consecutive has the following parameter(s): 
num: the integer to sum to 
Constraints 
12 
1 s num CIO 
Input Format For Custom Testing 
v Sample Case O 
Sample Input 
15 
Sample Output 
3 

def consecutive(num): 
# Write your code here 
count 
1 
while( (l + 1) < 2 * num): 
= (10 
1) 
* num — 
a 
if (a — 
int(a) = 
1 
count 
1 
return count 

第三题：Consective Sum

Sample Input 0

15

Sample Output 0

3

Sample Input 1

10

Sample Output 1

1

## 3.beautiful subarrays

3.Beautiful array <https://www.geeksforgeeks.org/number-subarrays-m-odd-numbers/>

3. Beautiful Subarrays 
A beautiful subarray is defined as an array of any length 
having a specific number of odd elements. Given an array 
of integers and a number of odd elements that constitutes 
beauty, create as many distinct beautiful subarrays as 
possible. Distinct means the arrays don't share identical 
starting and ending indices, though they may share one of 
the two. 
For example, given the array [1, 2, 3, 4, 5] and a beautiful 
number of 2, the following beautiful subarrays can be 
formed: 
[1, 2,31 
[3, 4, 51 
Function Description 
Complete the function beautifulSubarrays in the editor 
below. The function must return the number of beautiful 
subarrays present in a. 
beautifulSubarrays has the following parameter(s): 
an array integers 
m: the number of odd elements considered beautiful 
Constraints 
5 
1 s n s 2 x 10 
109. 
The array a consists of distinct positive integers. 
5 
Osms2x10 

def beautifulSubarrays(a, m):

    n = len(a)

    count = 0

    # use prefix of n

    prefix = [0] \* n

    odd = 0

    # go through all elements in the array

    for i in range(n):

        prefix[odd] += 1

        # if array element is odd

        if a*% 2 == 1:*

*odd += 1*

*# when number of odd elements>=M*

*if odd >= m:*

*count += prefix[odd - m]*

*return count*

public static long beauti a, 
// Write your code here 
long res = e; 
int counterOfOdds = 
e; 
int n = a. size(); I 
int i = e, j = O; 
tong counterOfLeftEven = e; 
long counterOfRi ghtEven = e 
boolean findFirst 
= false; 
white (j < n) 
white (counterofodds < m j < n) { 
if ((a.get(j) & 1) 1) counterOfOdds••; 
if ( (a. get(i) & 1) 1) counterOfOdds-—; 
int n) 
if (findFirst counterOfOdds m - 1 && (a.get(j) 1) 
e) counterOfRiøtEv«t••; 
if (counterOfOdds m findFirst) { 
res (counterOfLeftEven • 1) • (counterOfRightEven • 1); 
counterOfLeftEven = e; 
counterOfRightEven = e 
while (counterOfOdds m 
findFirst = true; 
if ( (a. get(i) & 1) e) counterOfLeftEven••; 
if (findFirst) res (counterOfLeftEven + 1) • (counterOfRightEven • 1); 
return res; 

## 4 break palindrome

说白了就是扫一遍字符串, 找到第一个不是a的字母并且把它变成a之后不再是palindrome

1. Break a Palindrome 
In this challenge, you will be given a palindrome which you must modify if possible. Change 
exactly one character of the string to another character in the range ascii[a-z] so that the string 
meets the following two conditions: 
• The new string is not a palindrome 
• The new string is lower lexicographically (alphabetically) than the initial string. 
• The new string is the lowest value string lexicographically that can be created from the original 
palindrome after making only one change. 
If it not possible to create a string meeting the criteria, return the string IMPOSSIBLE. 
Function Description 
Complete the function breakPalindrome in the editor below. The function must return the 
resulting string or IMPOSSIBLE if one cannot be formed. 
breakPalindrome has the following parameter(s): 
s: the original string 
Constraints 
1000 
• sis a palindrome 
• s contains only lowercase English letters 

v Sample Case O 
Sample Input For Custom Testing 
bab 
Sample Output 
aab 
Explanation 
The string aab is the smallest string which satisfies all the given conditions. 
v Sample Case 1 
Sample Input For Custom Testing 
acca 
Sample Output 
aaca 

## 5 most frequent substring

3. Most Frequent Substring 
Given a string, we want to know the maximum number of occurrences of any substring that satisfies the following two 
conditions: 
1 . The substring's length is within the inclusive range from minLength to maxLength. 
2. The total number of unique characters in the substring does not exceed maxUnique. 
For example, given a string s=abcde, minLength = 2, maxLength = 5, maxUnique = 3, the substrings matching the 
criteria are (ab, bc, cd, de, abc, bcd, cde). Any shorter string fails the minLength 2 2 (a, b, c, d, e). Any longer will fail 
the maxUnique test which requires unique character count be 3 (abcd, bcde). Each of the substrings occurs only one 
time, so the answer is 1. 
Function Description 
Complete the function getMaxOccurrences in the editor below. The function must return the maximum number of 
occurrences of any substring satisfying the conditions. 
getMaxOccurrences has the following parameter(s): 
s: a string 
minLength: an integer 
maxLength: an integer 
maxUnique: an integer 
Constraints 
5 
• 2 minLength maxLength 26 
• maxLength < n 
2 maxUnique 26 
c—ää- 

## 6 social network

3. The Social Network 
A social network has n active users, numbered from 0 to n — 7, who selectively friend other users to create groups of 
friends within the network. We define the following: 
• Two users, x and y, are direct friends if they friend each other on the network. 
• Two users, x and z, are indirect friends if there exists some direct friend, y, common to both users x and z. 
• Two users, x and y, belong to the same group if they are friends (either directly or indirectly) with each other. In other 
words, if user x is part of a group, then all of user xls friends and friends of friends belong to the same group. 
• We describe the number of people in each group as an array of n integers, counts, where each countsi (0 i < n) 
denotes the total number of users in the group that user i belongs to. For example, if counts [3, 3, 3, 3, 3, 7, 3], then 
there are three groups; users 0, 7, 2, 3, 4, and 6 are in one of two 3-person groups, and user 5 is in a 7-person group. 
Group Size 
3 
3 
3 
3 
3 
3 
• A group is valid if all the users in the group have minimal ID numbers. In other words, a group of size k must coi—ain 
the k smallest ID numbers belonging to a group of that size with respect to the smallest user ID in the gro' 
example, if counts [3, 3, 3, 3, 3, 7, 3], then the grouping [0, 7,2],[3,4, 6], and [5] is valid; however, the group 
4], [2, 3, 6], and [5] is not valid because the group [0, 7, 4] does not contain the three smallest user IDs for the 
user IDs belonging to 3-person groups (i.e., {0, 7, 2, 3, 4, 6}). 

lh 15m 
left 
ALL 
1 
2 
3 
group must be ordered by ascending smallest user 
ID. 
Sample Input 
4 
2 
2 
2 
2 
Sample Output 
Explanation 
We express counts = [2, 2, 2, 2] as the following 
table of group sizes: 
The valid grouping here is the groups [0, 1] and [2, 
Valid Grouping 
Group Group 
Invalid Grouping 
Group Group 
Invalid Group', 
o 
1 
2 
3 
2 
3 

def socialGraphs(counts): 
# Write your code here 
groups = { } 
res 
for i in range(len(counts)): 
= counts [i] 
size 
key = str(size) 
if key not in groups: 
groups [key] 
else: 
= groups [key] 
1st 
if len(lst) < size: 
groups [key] . append(i) 
elif len(lst) 
size: 
res. append( 1st) 
g roups [key] 
for key in groups: 
= groups [key] 
1st 
if len(lst) 
int (key): 
res . append( 1st) 
for r in sorted(res): 
print(*r, sep = 
11 

## 7 first repeated word

寻找一个句子中第一个重复的单词。值得注意的是这个句子包括空格、句号、逗号、冒号等多种分隔符。有两种解决方法，一种就是把所有分隔符用一种分隔符来替换，比如空格，然后再分隔；另一种比较方便的方法就是用正则表达式来表示多种分隔符直接分。有时间的话也可以用trie来实现存储，不知道这题的考点是不是这个。。。

1. Find the First Repeated Word in a 
Sentence 
A sentence is minimally defined as a word or group of 
words that ends with a period. We consider a word to 
be a sequence of letters delimited by a non-letter 
character. A repeated word is a case-sensitive word 
that appears more than once in a sentence (e.g.: 
'had' = 'had' but 'had' 'Had). Because substrings of 
a word are not delimited, they are not considered to 
be words, (e.g. 'hard' is not repeated in 'hardly'). 
You must determine the first repeated word in a 
sentence. For example, if your sentence is s = "We 
work hard because hard work pays. " The first 
matching word is hard. Even though work is repeated 
and occurs first in the sentence, the first repetition is 
the word 'hard'. 
Delimiters include the following: 
Whitespace: tab, space 
Others: 
Function Description 
Complete the function firstRepeatedWord in the 
editor below. The function must return the first 
repeated word in sentence s 

1. Find the First Repeated Word in a Sentence 
A sentence is minimally defined as a word or group of words that ends with a period. We consider a 
word to be a sequence of letters delimited by a non-letter character. A repeated word is a case- 
sensitive word that appears more than once in a sentence (e.g.: 'had' = had' but 'had' Hod). 
Because substrings of a word are not delimited, they are not considered to be words, (e.g. 'hard' is not 
repeated in 'hardly'). 
You must determine the first repeated word in a sentence. For example, if your sentence is s = 'VVe 
work hard because hard work pays. " The first matching word is hard. Even though work is repeated and 
occurs first in the sentence, the first repetition is the word 'hard. 
Delimiters include the following: 
Whitespace: tab, space 
Others: , . , . 
Function Description 
Complete the function firstRepeatedWord in the editor below. The function must return the first 
repeated word in sentence s 
firstRepeatedWord has the following parameter(s): 
s: a sentence to analyze 
Constraints 
o < 7024 
The following characters are delimiters between words: space, tab, comma (,), colon (:), semicolon (;), 
dash (—), and period 
It is guaranteed that each sentence s contains one or more repeated words. 
Each word is separated by one or more delimiters. 
Input Format for Custom Testing 
Input from stdin will be processed as follows and passed to the function. 
The only line contains a string, sentence s. 

Sample Case O 
Sample Input O 
He had had quite enough of this nonsense. 
Sample Output O 
had 
Explanation O 
In this case, 'had' is the first and only word to appear twice in the sentence. 

*from collections import Counter*

*def firstRepeatedWord(s):*

*# first split given string separated by space*

*words = s.split()*

*# calc freq table of the words*

*c = Counter(words)*

*# traverse list of words and check which first word*

*# has frequency > 1*

*for key in words:*

*if c[key]>1:*

*return key*

## 8 segment

3. Segment 
We define a subarray of size x in an n-element array to be the contiguous 
block of elements in the inclusive range from index i to index j, where j — 
i+1=xandOsisj<n. 
For example, given array 2, 41, the subarrays of size x = 2 would 
be (8, 21 and [2, 41 The minimum values of the two subarrays are [2, 21. 
The maximum of those two minimum values is 2. This is the value you 
want to determine. 
Function Description 
Complete the function segment in the editor below. Your function must 
find the minimum value for each subarray of size x in array arr and return 
an integer denoting the maximum of these minima. 
segment has the following parameter(s): 
x: an integer, the segment length 
an array of integers 
Constraints 
• 1 sns106 
• 1 Sarr{iJs 109 
• 105 
Input Format for Custom Testing 
v Sample Case O 
Sample Input O 
2 
3 
2 

## 9 Prefix To Postfix.

用stack搞定

<https://www.geeksforgeeks.org/prefix-postfix-conversion/>

第二题：Prefix To Postfix

Sample Input 0

3

\*34

+1\*23. 1point3acres

+12

Sample Output 0

34\*

123\*+

12+

Sample Input 1

1

+1\*\*23/14

Sample Output 1

123\*14/\*+

## 10 linkedlist，二进制

给一个linkedlist，二进制表示的数，要求转化为十进制的long输出，很简单，直接秒

给一个linked list全是1，0 表示一个二进制的数，输出最后十进制结果

补充还有一个binary number in a linkedlist. 二进制到十进制 010011 ---> 19

虽然这道题也不用准备..

2. Binary num in linkedlist, 给一个LinkedList表示的二进制数（每个node存0或1），返回十进制的

第一题：Binary Number in a Linked List

Sample Input 0

7

0

0

1. 1point3acres

1

0

1

0

Sample Output 0

26

Sample Input 1

10

0

0

0

0

0

1

1

1

1

1

Sample Output 1

31

## 11 sliding window minimum

sliding window minimum 变形, 返回所有sliding window min的最大值

LC239，不过这题目要求的是最小值，而不是最大值，原理都一样。

<https://leetcode.com/problems/sliding-window-maximum/>

## 12 max substring

LC1163

Maxium substring, [https://www.geeksforgeeks.org/le ... m-substring-string/](https://www.geeksforgeeks.org/lexicographical-maximum-substring-string/)

Maximum Substring - Generate all unique substrings from given string, then return last string in (asc.) sorted string array

<https://leetcode.com/problems/last-substring-in-lexicographical-order/>

## 13 Distinct Pair

用set去重 o(n)

给一个数组和一个target，找出数组中有多少对数相加等于target，其中[a,b]，[b,a] 算同一个。

第二道题是twoSum的变形，给定一个数组，返回distinct的数字pair，使之加起来的和是给定的一个数。

2. Distinct Pairs 
Given an array of integers and a target value, find the number of distinct pairs that sum 
to the target. The pairs (x, y) and (x', y') where x sy and x' y' are considered distinct 
if (x, y) (x', y'). As an illustration, sort the two arrays sorted(3, 2) = (2, 3) and sorted(2, 
3) = (2, 3). The two arrays are not distinct. The two arrays (2, 3) and (2, 4) are distinct. 
For example, arr= [5, 7, 9, 13, 11, 6, 6, 3, 3], and given a target value of k = 12, the 4 
pairs (5, 7), (6, 6), (9, 3), (9, 3), (two instances of 3), all sum to 12 and there are only 3 
distinct pairs: (5, 7), (3, 9), and (6, 6). 
Function Description 
Complete the function countPairs in the editor below. The function must return an 
integer, the total number of distinct pairs of elements in the array that sum to the target 
value. 
countPairs has the following parameter(s): 
arr[arr[0],...arr[n-1]]: an array of integers 
k: target integer for the sum 
Constraints 
• 1 s n s 5 x 105 
109 
109 

v Sample Case O 
Sample Input O 
6 
1 
3 
46 
1 
3 
9 
47 
Sample Output O 
1 
Explanation O 
[1, 3, 46, 1, 3, 91, and k=47 
There are 4 pairs where arr[i] + arr[j] 
1. 1, = 46) 
2. = 46, 1) 
3. 46, 1) 
4. 1, 46) 
Since all four pairs contain the same values, there is only 1 distinct pair, (1, 

countPairs: lc 2sum 的变形

*def countPairs(arr, k):*

*n = len(arr)*

*count = 0*

*seen = set()*

*pairElem = set()*

*for num in arr:*

*other = k-num*

*if other in seen:*

*tup = (num,other)*

*if num > other:*

*tup = (other,num)*

*pairElem.add(tup)*

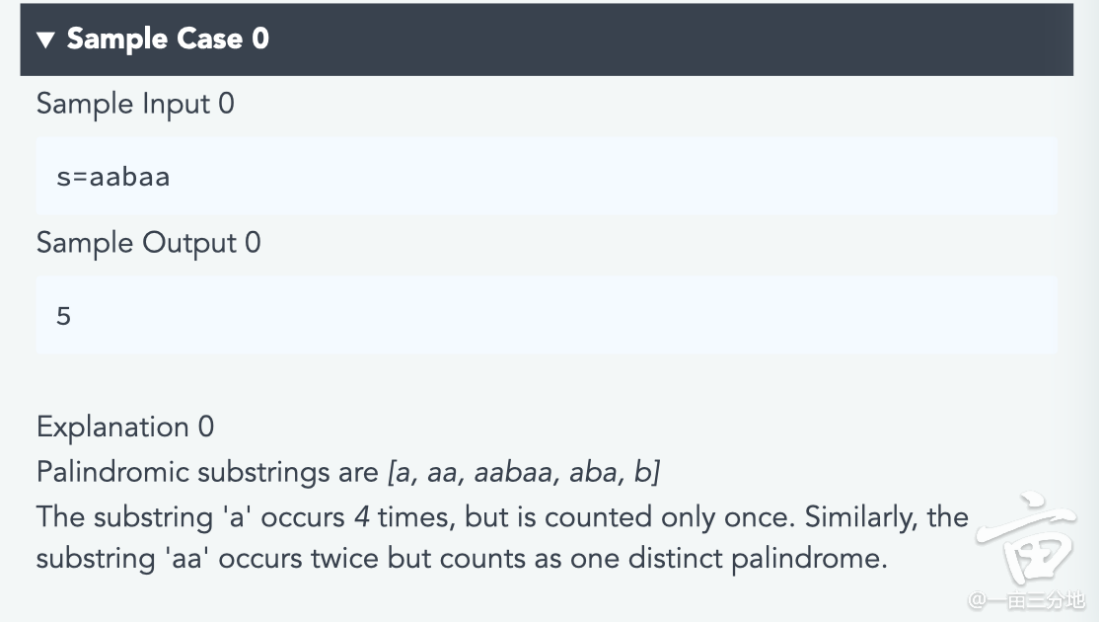
*count+=1*

*seen.add(num)*

*return len(pairElem)*

## 14 Sub-Palindrome

- Exact Match: [Distinct Palindromic Sub-String Given String 2](https://www.geeksforgeeks.org/find-number-distinct-palindromic-sub-strings-given-string/)

* + 3. Sub-palindrome 
    A palindrome is a string that reads the same forward and backward, e.g. 121 or 
    tacocat. A substring is a contiguous subset of characters in a string. Given a 
    string s, how many distinct substrings of s are palindromes? 
    For example, s = mokkori. Some of its substrings are 
    [m,o,k,r,i,mo,ok,mok,okk,kk,okko]. Each of the red elements is a palindromic 
    substring of s. In total, there are 7 distinct palindromes. 
    Function Description 
    Complete the function palindrome in the editor below. The function must return 
    the number of distinct palindromes as an integer. 
    palindrome has the following parameter(s): 
    s: a string 
    Constraints 
    • Each character s[i] e ascii[a-z] 
  + 

## 15 List Max

Maximum value in an array after m range increment operations

<https://www.geeksforgeeks.org/maximum-value-array-m-range-increment-operations/>

2. List Max 
In this challenge, start with an array initialized to zeros with indices starting at 7 and a 
series of operations to perform on segments of the list. Each operation will consist of a 
starting and ending index within the array, and a number to add to each element within 
that range. Determine the maximum value in the final array. 
For example, start with an array of 5 elements: list = {O, O, O, O, O]. The 
variables o and b represent the starting and ending indices, inclusive. Another 
variable, k, is the addend. The first element is at index 7. 
list 
a, 
10, 
10, 
10, 
15, 
15, 
17, 
The maximum value in the resultant array is 77. That is the value to be determined. 
Function description 
Complete the listMax function in the editor below. The function must return a long 
integer that denotes the largest value in the array after all operations have been 
performed. 
listMax has the following parameters: 
n: an integer, the size of the initial array. 
operations: a 2D integer array where each element contains an operation. 
Constraints 
v Input Format 
Input from stdin should be processed as follows and passed to the function. 

The first line contains an integer, n, the size of your array 
The second line contains an integer, o, the number of operations 
The next line contains the integer 3, the number of elements used to define each 
operation 
o lines follow, each containing 3 space-separated integers, o, b, and k. the starting 
index, ending index and value to add 
v Sample Case O 
Sample Input O 
Sample Output O 
200 
Explanation O 
Perform the following sequence of o = 3 operations on list = [O, O, O, O, 0}: 
1. Add k = 700 to every element in the inclusive range [1, 2], resulting in list 
2. Add k = 700 to every element in the inclusive range [2, 5], resulting in list 
700, 100, 1001. 
3. Add k = 700 to every element in the inclusive range [3, 4], resulting in list 
200, 200, 1001. 
Return the maximum value in the final list, 200, as the answer. 
Sample Case 1 
Sample Input 1 
= [100, 700, 
= [100, 200, 
= [100, 200, 
2 
1 
4 
3 603 
1 
286 
4 
882 

Sample Output 1 
882 
Explanation 1 
Perform the following sequence of o = 3 operations on list = [O, O, O, O]: 
1. Add 
603 to every element in the inclusive range [2, 3], resulting in list 
603, o,' 
2. Add 
k — 286 to every element in the inclusive range [1, 1], resulting in list 
603, o,' 
3. Add 
k — 882 to every element in the inclusive range [4, 4], resulting in list 
603, 882} 
Return the maximum value in the final list, 882, as the answer. 
= [0, 603, 
- [286, 603, 
- [286, 603, 

## 16 longest even length word

找一句话里面 最大的偶数长度的单词，如果有多个同样长度的 则返回第一个。

比如说"Time to write greate code" ，return Time