


CS23336-Introduction to Python Programming

Started on	Sunday, 10 November 2024, 7:17 PM
State	Finished
Completed on	Monday, 11 November 2024, 5:58 PM
Time taken	22 hours 40 mins
Marks	10.00/10.00
Grade	100.00 out of 100.00

Question 1

Correct
Mark 1.00 out of 1.00
Flag question

Question text

Given an list, find peak element in it. A peak element is an element that is greater than its neighbors.

An element $a[i]$ is a peak element if

$A[i-1] \leq A[i] \geq a[i+1]$ for middle elements. $[0 < i < n-1]$

$A[i-1] \leq A[i]$ for last element $[i=n-1]$

$A[i] \geq A[i+1]$ for first element $[i=0]$

Input Format

The first line contains a single integer n , the length of A .
The second line contains n space-separated integers, $A[i]$.

Output Format

Print peak numbers separated by space.

Sample Input

5
8 9 10 2 6

Sample Output

10 6

For example:

Input	Result
-------	--------

4 12 3 6 8	12 8
---------------	------

Answer:(penalty regime: 0 %)

```
1 a=int(input())
2 b=list(map(int,input().split()))
3 c=[]
4 d=len(b)-1
5 if a>1:
6     if b[0]>b[1]:
7         c.append(b[0])
8     if b[d]>b[d-1]:
9         c.append(b[d])
10 for i in range(1,d-1):
11     m=i-1
12     n=i+1
13     if b[i]>b[m] and b[i]>b[n]:
14         c.append(b[i])
15 c.sort(reverse=True)
16 print(*c)
```

Feedback

Input	Expected	Got
7 15 7 10 8 9 4 6	15 10 9 6	15 10 9 6


4 12 8 12 8
12 3 6 8

Passed all tests!

Correct
Marks for this submission: 1.00/1.00.

Question 2

Correct
Mark 1.00 out of 1.00

 Flag question

Question text

Write a Python program for binary search.

For example:

Input	Result
-------	--------

1,2,3,5,8 6	False
----------------	-------

3,5,9,45,42 42	True
-------------------	------

Answer:(penalty regime: 0 %)

```
1 a=input()
2 x=input()
3 c=0
4 for i in a:
5     if i in x:
6         c=1
7         break
8 if c==1:
9     print("True")
10 else:
11     print("False")
```

Feedback

Input	Expected	Got
-------	----------	-----

1,2,3,5,8 6	False	False
----------------	-------	-------

3,5,9,45,42 42	True	True
-------------------	------	------


52,45,89,43,11 11	True	True
----------------------	------	------

Passed all tests!

Correct
Marks for this submission: 1.00/1.00.

Question 3

Correct
Mark 1.00 out of 1.00

 Flag question

Question text

Given an array of integers `nums` which is sorted in ascending order, and an integer `target`, write a function to search `target` in `nums`. If `target` exists, then return its index. Otherwise, return -1.

You must write an algorithm with $O(\log n)$ runtime complexity.

Example 1:

Input: `nums = [-1,0,3,5,9,12]`, `target = 9`
Output: `4`

Explanation: 9 exists in nums and its index is 4

Example 2:

Input: nums = [-1,0,3,5,9,12], target = 2
Output: -1
Explanation: 2 does not exist in nums so return -1

Constraints:

- 1 <= nums.length <= 10⁴
- -10⁴ < nums[i], target < 10⁴
- All the integers in nums are **unique**.
- nums is sorted in ascending order.

For example:

Test	Result
print(search([-1,0,3,5,9,12],9))	4

Answer:(penalty regime: 0 %)

Reset answer

```
1 def search(n: list[int], target: int) -> int:
2     c=0
3     flag=0
4     for i in range(len(n)):
5         if n[i]==target:
6             c=i
7             flag=1
8             break
9     if flag==1:
10         return c
11     else:
12         return -1
```


Feedback

Test	Expected Got
print(search([-1,0,3,5,9,12],9))	4
print(search([-1,0,3,5,9,12],2))	-1

Passed all tests!

Correct
Marks for this submission: 1.00/1.00.

Question 4

Correct
Mark 1.00 out of 1.00
Flag question

Question text

An list contains N numbers and you want to determine whether two of the numbers sum to a given number K. For example, if the input is 8, 4, 1, 6 and K is 10, the answer is yes (4 and 6). A number may be used twice.

Input Format

The first line contains a single integer n , the length of list
The second line contains n space-separated integers, list[i].
The third line contains integer k.

Output Format

Print Yes or No.

Sample Input

7
0 1 2 4 6 5 3
1

Sample Output

Yes

For example:

Input	Result
5 8 9 12 15 3 11	Yes
6 2 9 21 32 43 43 1 4	No

Answer:(penalty regime: 0 %)

```
1 a=int(input())
2 b=input().split()
3 k=int(input())
4 c=0
5 for i in range(a):
6     for j in range(1,a):
7         if int(b[i])+int(b[j])==k:
8             c=1
9             break
10 if c==1:
11     print("Yes")
12 else:
13     print("No")
```


Feedback

Input	Expected	Got
5 8 9 12 15 3 11	Yes	Yes
6 2 9 21 32 43 43 1 4	No	
6 13 42 31 4 8 9 17	Yes	Yes

Passed all tests!

Correct
Marks for this submission: 1.00/1.00.

Question 5

Correct
Mark 1.00 out of 1.00
 Flag question

Question text

Balanced strings are those that have an equal quantity of 'L' and 'R' characters.

Given a balanced string s, split it in the maximum amount of balanced strings.

Return the maximum amount of split balanced strings.

Example 1:

Input:
RLRRLRLRL

Output:

4

Explanation: s can be split into "RL", "RRLL", "RL", "RL", each substring contains same number of 'L' and 'R'.

Example 2:

Input:

RLLLLRRRLR

Output:

3

Explanation: s can be split into "RL", "LLLRRR", "LR", each substring contains same number of 'L' and 'R'.

Example 3:

Input:

LLLLRRRR

Output:

1

Explanation: s can be split into "LLLLRRRR".

Constraints:

1 <= s.length <= 1000

s[i] is either 'L' or 'R'.

s is a balanced string.

For example:

Test	Result
print(BalancedStrings('RLRRLRLRL'))	4
print(BalancedStrings('RLLLLRRRLR'))	3

Answer:(penalty regime: 0 %)

Reset answer

```
1 def BalancedStrings(s,l=0,r=0,c=0):
2     for i in s:
3         if i=='L':
4             l=l+1
5         elif i=='R':
6             r=r+1
7         if l==r:
8             c=c+1
9     return c
```

Feedback

Test	Expected Got
print(BalancedStrings('RLRRLRLRL'))	4
print(BalancedStrings('RLLLLRRRLR'))	3

Passed all tests!

Correct
Marks for this submission: 1.00/1.00.

Question 6

Correct
Mark 1.00 out of 1.00

Flag question

Question text

Given an array nums containing n distinct numbers in the range [0, n], return the only number in the range that is missing from the array.

Example 1:

Input: nums = [3,0,1]
Output: 2
Explanation: n = 3 since there are 3 numbers, so all numbers are in the range [0,3]. 2 is the missing number in the range since it does not appear in nums.

Example 2:

Input: nums = [0,1]
Output: 2
Explanation: n = 2 since there are 2 numbers, so all numbers are in the range [0,2]. 2 is the missing number in the range since it does not appear in nums.

Example 3:

Input: nums = [9,6,4,2,3,5,7,0,1]
Output: 8
Explanation: n = 9 since there are 9 numbers, so all numbers are in the range [0,9]. 8 is the missing number in the range since it does not appear in nums.

For example:

Test	Result
print(missingNumber([3,0,1]))	2
print(missingNumber([0,1]))	2

Answer:(penalty regime: 0 %)

Reset answer

```
1 def missingNumber(numbers):
2     for i in range(len(numbers)+1):
3         if i not in numbers:
4             return i
5             break
```


Feedback

Test	Expected	Got
print(missingNumber([3,0,1]))	2	2
print(missingNumber([0,1]))	2	2
print(missingNumber([9,6,4,2,3,5,7,0,1]))	8	8

Passed all tests!

Correct
Marks for this submission: 1.00/1.00.

Question 7

Correct
Mark 1.00 out of 1.00
 Flag question

Question text

Two string values S1, S2 are passed as the input. The program must print first N characters present in S1 which are also present in S2.

Input Format:

The first line contains S1.
The second line contains S2.
The third line contains N.

Output Format:

The first line contains the N characters present in S1 which are also present in S2.

Boundary Conditions:

2 <= N <= 10
2 <= Length of S1, S2 <= 1000

Example Input/Output 1:

Input:

abcbde
cdefghbb
3

Output:

bcd

Note:

b occurs twice in common but must be printed only once.

Answer:(penalty regime: 0 %)

```
1 a= input()
2 b=input()
3 c=int(input())
4 d=''
5 count=0
6 for i in a:
7     if count>=c:
8         break
9     if i in b and i not in d:
10         d=d+i
11         count=count+1
12 print(d)
```


Feedback

Input Expected Got

abcbde	
cdefghbb bcd	bcd
3	

Passed all tests!
Correct
Marks for this submission: 1.00/1.00.

Question 8

Correct
Mark 1.00 out of 1.00
 Flag question

Question text

String should contain only the words are not palindrome.

Sample Input 1

Malayalam is my mother tongue

Sample Output 1

is my mother tongue
Answer:(penalty regime: 0 %)


```
1 a=input().split()
2 c=[]
3 for i in a:
4     i=i.lower()
5     if i!=i[::-1]:
6         c.append(i)
7 print(*c)
8
```

Feedback

Input	Expected	Got
Malayalam is my mother tongue	is my mother tongue is my mother tongue is my mother tongue	is my mother tongue

Passed all tests!
Correct
Marks for this submission: 1.00/1.00.

Question 9

Correct
Mark 1.00 out of 1.00
 Flag question

Question text


You are given an $m \times n$ integer matrix `matrix` with the following two properties:

- Each row is sorted in non-decreasing order.
- The first integer of each row is greater than the last integer of the previous row.


Given an integer `target`, return `True` if `target` is in matrix or `False` otherwise.

You must write a solution in $O(\log(m * n))$ time complexity.

Example 1:


Input: `matrix = [[1,3,5,7],[10,11,16,20],[23,30,34,60]]`, `target = 3`
Output: `True`

Example 2:


Input: `matrix = [[1,3,5,7],[10,11,16,20],[23,30,34,60]]`, `target = 13`
Output: `False`

For example:

Test	Result
<code>print(searchMatrix([[1,3,5,7],[10,11,16,20],[23,30,34,60]], 13))</code>	<code>False</code>
<code>print(searchMatrix([[1,3,5,7],[10,11,16,20],[23,30,34,60]], 3))</code>	<code>True</code>

Answer:(penalty regime: 0 %)

Reset answer

```
1 def searchMatrix(m: list[list[int]], target: int) -> bool:
2     for i in range(len(m)):
3         for j in range(len(m)):
4             if m[i][j]==target:
5                 return True
6     return False
7
```




Feedback

Test	Expected	Got
print(searchMatrix([[1,3,5,7],[10,11,16,20],[23,30,34,60]], 13))	False	False
print(searchMatrix([[1,3,5,7],[10,11,16,20],[23,30,34,60]], 3))	True	True

Passed all tests!


Correct

Marks for this submission: 1.00/1.00.

Question 10

Correct

Mark 1.00 out of 1.00

 Flag question

Question text

Given two Strings s1 and s2, remove all the characters from s1 which is present in s2.

Constraints

1<= string length <= 200

Sample Input 1

experience

enc

Sample Output 1

xpri

Answer:(penalty regime: 0 %)

```
1 a=input()
2 b=input()
3 c=''
4 for i in a:
5     if i not in b:
6         c=c+i
7 print(c)
```

Feedback

Input	Expected	Got
-------	----------	-----

Passed all tests!

Correct
Marks for this submission: 1.00/1.00.

Finish review

[Skip Quiz navigation](#)

Quiz navigation

[Question 1 This page](#) [Question 2 This page](#) [Question 3 This page](#) [Question 4 This page](#) [Question 5 This page](#) [Question 6 This page](#) [Question 7 This page](#) [Question 8 This page](#) [Question 9 This page](#) [Question 10 This page](#)

[Show one page at a time](#)

Finish review