

Rajalakshmi Engineering College

PYTHON MOODLE CODES:

WEEK 6

[CS23231]

G. Meenakshi

231501097

AIML-B

First year

Week6_Coding: Attempt review

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Finish review

Question 1

Correct

Mark 1.00 out of 1.00

Flag question

Write a Python program to check if a given list is strictly increasing or not. Moreover, If removing only one element from the list results in a strictly increasing list, we still consider the list true

Input:

n : Number of elements

List1: List of values

Output

Print "True" if list is strictly increasing or decreasing else print "False"

Sample Test Case

Input

7

1

2

3

0

4

5

6

Output

True

Answer: (penalty regime: 0 %)

```
1 a=int(input())
2 l,f,d=[],0,2
3 for i in range(a):
```

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```
1 a=int(input())
2 l,f,d=[],0,2
3 for i in range(a):
4     c=int(input())
5     l.append(c)
6 s=l.copy()
7 ass=sorted(l)
8 des=sorted(l)[::-1]
9 if(l==ass or l==des):
10     f=1
11 else:
12     for i in l:
13         l.remove(i)
14         ass.remove(i)
15         des.remove(i)
16         if(l==ass or l==des):
17             f=1
18             break
19 l=s.copy()
20 ass=sorted(l)
21 des=sorted(l)[::-1]
22 if(f==1):
23     print("True")
24 else:
25     print("False")
```

	Input	Expected	Got	
✓	7	True	True	✓
	1			
	2			
	3			
	0			

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```
23     print("True")
24-   else:
25     print("False")
```

	Input	Expected	Got	
✓	7	True	True	✓
	1			
	2			
	3			
	0			
	4			
	5			
	6			
✓	4	True	True	✓
	2			
	1			
	0			
	-1			

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question 2

Correct

Mark 1.00 out of 1.00

Flag question


Complete the program to count frequency of each element of an array. Frequency of a particular element will be printed once.

Sample Test Cases

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```
1 n=int(input())
2 array=[int(input()) for _ in range(n)]
3 frequency={}
```

Complete the program to count frequency of each element of an array. Frequency of a particular element will be printed once.

Sample Test Cases

Test Case 1

Input

7
23
45
23
56
45
23
40

Output

23 occurs 3 times
45 occurs 2 times
56 occurs 1 times
40 occurs 1 times

Answer: (penalty regime: 0 %)

Question 2

Correct

Mark 1.00 out of 1.00

Flag question

Complete the program to count frequency of each element of an array. Frequency of a particular element will be printed once.

Sample Test Cases

Test Case 1

Input

7
23
45
23
56
45
23
40

Output

23 occurs 3 times
45 occurs 2 times
56 occurs 1 times
40 occurs 1 times

Answer: (penalty regime: 0 %)

```
1 n=int(input())
2 array=[int(input()) for _ in range(n)]
3 frequency={}
```

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```

1 n=int(input())
2 array=[int(input()) for _ in range(n)]
3 frequency={}
4 for num in array:
5     if num in frequency:
6         frequency[num]+=1
7     else:
8         frequency[num]=1
9 for num, freq in frequency.items():
10    print(f"{num} occurs {freq} times")
11

```

	Input	Expected	Got	
✓	7	23 occurs 3 times	23 occurs 3 times	✓
	23	45 occurs 2 times	45 occurs 2 times	
	45	56 occurs 1 times	56 occurs 1 times	
	23	40 occurs 1 times	40 occurs 1 times	
	56			
	45			
	23			
	40			

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Question 3
Correct
Mark 1.00 out of 1.00
Flag question

Given an array of numbers, find the index of the smallest array element (the pivot), for which the sums of all elements to the left and to the right are equal. The array may not be reordered.

Example

arr=[1,2,3,4,6]

- the sum of the first three elements, $1+2+3=6$. The value of the last element is 6.
- Using zero based indexing, arr[3]=4 is the pivot between the two subarrays.
- The index of the pivot is 3.

Constraints

- $3 \leq n \leq 10^5$
- $1 \leq arr[i] \leq 2 \times 10^4$, where $0 \leq i < n$
- It is guaranteed that a solution always exists.

The first line contains an integer n, the size of the array arr.

Each of the next n lines contains an integer, arr[i], where $0 \leq i < n$.

Sample Case 0

Sample Input 0

```

4
1
2
3
3

```

Sample Output 0

```

2

```

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3

Sample Output 0

2

Explanation 0

- The sum of the first two elements, $1+2=3$. The value of the last element is 3.
- Using zero based indexing, $arr[2]=3$ is the pivot between the two subarrays.
- The index of the pivot is 2.

Sample Case 1

Sample Input 1

3

1

2

1

Sample Output 1

1

Explanation 1

- The first and last elements are equal to 1.
- Using zero based indexing, $arr[1]=2$ is the pivot between the two subarrays.
- The index of the pivot is 1.

For example:

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- The index of the pivot is 1.

For example:

Input	Result
4	2
1	
2	
3	
3	
3	1
1	
2	
1	


Answer: (penalty regime: 0 %)

```
1 a=int(input())
2 l=[]
3 for i in range(a):
4     c=int(input())
5     l.append(c)
6 for i in range(1,a):
7     d=sum(l[0:i])
8     r=sum(l[i+1:])
9     if(d==r):
10        print(i)
```

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	Input	Expected	Got	
✓	4	2	2	✓
	1			
	2			
	3			
	3			
✓	3	1	1	✓
	1			
	2			
	1			

Passed all tests! ✓

Correct

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Question 4

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M2

Question 4

Correct

Mark 1.00 out of 1.00

Flag question

Given an array A of sorted integers and another non negative integer k, find if there exists 2 indices i and j such that $A[i] - A[j] = k$, $i \neq j$.

Input Format

1. First line is number of test cases T. Following T lines contain:
2. N, followed by N integers of the array
3. The non-negative integer k

Output format

Print 1 if such a pair exists and 0 if it doesn't.

Example

Input

```
1
3
1
3
5
4
```

Output:

```
1
1
3
1
3
```

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1
Input
1
3
1
3
5
99
Output
0

For example:

Input	Result
1 3 1 3 5 4	1
1 3 1 3 5 99	0

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```
1 n=int(input())
2 while(n!=0):
3     x=int(input())
4     a=[]
5     l=0
6     for i in range(x):
7         p=int(input())
8         a.append(p)
9     y=int(input())
10    n=n-1
11    for i in range(len(a)):
12        for j in range(len(a)):
13            if i!=j:
14                if a[i]-a[j]==y:
15                    l=1
16    if(l==1):
17        print(1)
18    else:
19        print(0)
```

	Input	Expected	Got	
✓	1 3 1 3 5 4	1	1	✓
✓	1 3	0	0	✓

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```
18 else:
19     print(0)
```

	Input	Expected	Got	
✓	1	1	1	✓
	3			
	1			
	3			
	5			
	4			
✓	1	0	0	✓
	3			
	1			
	3			
	5			
	99			

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question 5

Correct

Write a Python program to Zip two given lists of lists.

Input:

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Question 5

Correct

Mark 1.00 out of 1.00

Flag question

Write a Python program to Zip two given lists of lists.

Input:

m : row size

n: column size

list1 and list 2 : Two lists

Output

Zippped List : List which combined both list1 and list2

Sample test case

Sample input

2

2

1

3

5

7

2

4

6

8

Sample Output

[[1, 3, 2, 4], [5, 7, 6, 8]]

Answer: (penalty regime: 0 %)

1 a=[]

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```

1 a=[]
2 b=[]
3 c=[]
4 m=int(input())
5 n=int(input())
6 for i in range(n*2):
7     p=int(input())
8     a.append(p)
9 for i in range(m*2):
10    q=int(input())
11    b.append(q)
12 for i in range(n):
13     x=b[i]
14     b[i]=a[i+m]
15     a[i+m]=x
16 print([a,b])

```

	Input	Expected	Got	
✓	2	[[1, 2, 5, 6], [3, 4, 7, 8]]	[[1, 2, 5, 6], [3, 4, 7, 8]]	✓
	1			
	2			
	3			
	4			
	5			
	6			
	7			

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Question 6
Correct
Mark 1.00 out of 1.00
Flag question

Determine the factors of a number (i.e., all positive integer values that evenly divide into a number) and then return the p^{th} element of the list, sorted ascending. If there is no p^{th} element, return 0.

Example

$n = 20$

$p = 3$

The factors of 20 in ascending order are {1, 2, 4, 5, 10, 20}. Using 1-based indexing, if $p = 3$, then 4 is returned. If $p > 6$, 0 would be returned.

Constraints

$1 \leq n \leq 10^{15}$

$1 \leq p \leq 10^9$

The first line contains an integer n , the number to factor.

The second line contains an integer p , the 1-based index of the factor to return.

Sample Case 0

Sample Input 0

```

10
3

```

Sample Output 0

```

5

```

Explanation 0

Factoring $n = 10$ results in {1, 2, 5, 10}. Return the $p = 3^{\text{rd}}$ factor, 5, as the answer.

Sample Case 1

Sample Input 1

```

10
5

```

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Sample Case 1

Sample Input 1

10

5

Sample Output 1

0

Explanation 1

Factoring $n = 10$ results in $\{1, 2, 5, 10\}$. There are only 4 factors and $p = 5$, therefore 0 is returned as the answer.

Sample Case 2

Sample Input 2

1

1

Sample Output 2

1

Explanation 2

Factoring $n = 1$ results in $\{1\}$. The $p = 1$ st factor of 1 is returned as the answer.

For example:

Input	Result
10	5
3	
10	0
5	

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Factoring $n = 1$ results in $\{1\}$. The $p = 1$ st factor of 1 is returned as the answer.

For example:

Input	Result
10	5
3	
10	0
5	
1	1
1	

Answer: (penalty regime: 0 %)

```
1 def find_factor(n, p):
2     factors = []
3     for i in range(1, int(n**0.5) + 1):
4         if n % i == 0:
5             factors.append(i)
6             if i != n // i:
7                 factors.append(n // i)
8     factors.sort()
9     if p > len(factors):
10        return 0
11    else:
12        return factors[p - 1]
13
14 # Example usage:
15 n = int(input())
16 p = int(input())
17 result = find_factor(n, p)
18 print(result)
19
```

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	Input	Expected	Got	
✓	10 3	5	5	✓
✓	10 5	0	0	✓
✓	1 1	1	1	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

Question 7

Correct

Mark 1.00 out of 1.00

Flag question

Program to print all the distinct elements in an array. Distinct elements are nothing but the unique (non-duplicate) elements present in the given array.

Input Format:

First line take an Integer input from stdin which is array length n.

Second line take n Integers which is inputs of array.

Output Format:

Print the Distinct Elements in Array in single line which is space Separated

Example Input:

Question 7

Correct

Mark 1.00 out of 1.00

Flag question

Program to print all the distinct elements in an array. Distinct elements are nothing but the unique (non-duplicate) elements present in the given array.

Input Format:

First line take an Integer input from stdin which is array length n.

Second line take n Integers which is inputs of array.

Output Format:

Print the Distinct Elements in Array in single line which is space Separated

Example Input:

5

1

2

2

3

4

Output:

1 2 3 4

Example Input:

6

1

1

2

2

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Example Input:

```
6
1
1
2
2
3
3
```

Output:

```
1 2 3
```

For example:

Input	Result
5 1 2 2 3 4	1 2 3 4
6 1 1 2 2 3 3	1 2 3

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1
1
2
2
3
3

Answer: (penalty regime: 0 %)

```
1 def print_distinct_elements(arr):
2     distinct_elements = set()
3     for num in arr:
4         distinct_elements.add(num)
5     print(*distinct_elements)
6
7 # Input
8 n = int(input())
9 arr = []
10 for _ in range(n):
11     arr.append(int(input()))
12
13 # Output
14 print_distinct_elements(arr)
15
```

Input	Expected	Got
5 1 2 2 3 4	1 2 3 4	1 2 3 4
6 1 1 2 2 3 3	1 2 3	1 2 3

```
13 # Output
14 print_distinct_elements(arr)
15
```

Input	Expected	Got
✓ 5 1 2 2 3 4	1 2 3 4	1 2 3 4 ✓
✓ 6 1 1 2 2 3 3	1 2 3	1 2 3 ✓

Passed all tests! ✓

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Question 8
Correct
Mark 1.00 out of 1.00
Flag question

Find the intersection of two sorted arrays.
OR in other words,
Given 2 sorted arrays, find all the elements which occur in both the arrays.

Input Format
The first line contains T, the number of test cases. Following T lines contain:
1. Line 1 contains N1, followed by N1 integers of the first array
2. Line 2 contains N2, followed by N2 integers of the second array

Output Format
The intersection of the arrays in a single line

Example
Input:
1
3 10 17 57
6 2 7 10 15 57 246
Output:
10 57
Input:
1
7
1
2
3

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10 57
Input:
1
7
1
2
3
3
4
5
6
2
1
6
Output:
1 6

For example:

Input	Result
1 3 10 17 57	10 57

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For example:

Input	Result
1	10 57
3	
10	
17	
57	
6	
2	
7	
10	
15	
57	
246	
1	1 6
7	
1	
2	
3	
3	
4	
5	
6	
2	
1	
6	

Answer: (penalty regime: 0 %)

```
1 a=int(input())
2 while(a):
```

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5
6
2
1
6

Answer: (penalty regime: 0 %)

```
1 a=int(input())
2 while(a):
3     l1,l2=[],[]
4     b=int(input())
5     for i in range(b):
6         c=int(input())
7         l1.append(c)
8     d=int(input())
9     for j in range(d):
10        c=int(input())
11        l2.append(c)
12    a+=1
13    for i in range(b):
14        if(l1[i]in l2):
15            print(l1[i],end=' ')
16
```

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

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	Input	Expected	Got	
✓	1 3 10 17 57 6 2 7 10 15 57 246	10 57	10 57	✓
✓	1 7 1 1 2 3 3 4 5 6 2 1 6	1 6	1 6	✓

Passed all tests! ✓

Correct

Marks for this submission: 1.00/1.00.

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Question 9

Correct

Mark 1.00 out of 1.00

Flag question

Given two lists A and B, and B is an anagram of A. B is an anagram of A means B is made by randomizing the order of the elements in A. We want to find an *index mapping* P, from A to B. A mapping $P[i] = j$ means the *i*th element in A appears in B at index *j*. These lists A and B may contain duplicates. If there are multiple answers, output any of them.

For example, given

Input

5

12 28 46 32 50

50 12 32 46 28

Output

1 4 3 2 0

Explanation

A = [12, 28, 46, 32, 50]

B = [50, 12, 32, 46, 28]

We should return

[1, 4, 3, 2, 0]

as $P[0] = 1$ because the 0th element of A appears at B[1], and $P[1] = 4$ because the 1st element of A appears at B[4], and so on.

Note:

1. A, B have equal lengths in range [1, 100].
2. $A[i]$, $B[i]$ are integers in range $[0, 10^5]$.

Answer: (penalty regime: 0 %)

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Answer: (penalty regime: 0 %)

```
1 n=int(input())
2 a=input().split()
3 b=input().split()
4 for i in a:
5     if(i in b):
6         print(b.index(i),end=' ')
```

	Input	Expected	Got	
✓	5	1 4 3 2 0	1 4 3 2 0	✓
	12 28 46 32 50			
	50 12 32 46 28			

Passed all tests! ✓

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Question 10
Correct
Mark 1.00 out of 1.00
Flag question

Output is a merged array without duplicates.

Input Format

N1 - no of elements in array 1

Array elements for array 1

N2 - no of elements in array 2

Array elements for array2

Output Format

Display the merged array

Sample Input 1

```
5
1
2
3
6
9
4
2
4
5
10
```

Sample Output 1

Week6_Coding Attempt review

Not secure 118.185.187.137/moodle/mod/quiz/review.php?attempt=96880&cmid=1070

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5

10

Sample Output 1

1 2 3 4 5 6 9 10

Answer: (penalty regime: 0 %)

```
1 l1,l2=[],[]
2 a=int(input())
3 for i in range(a):
4     c=int(input())
5     l1.append(c)
6 b=int(input())
7 for i in range(b):
8     c=int(input())
9     l2.append(c)
10 if(c not in l1):
11     l1.append(c)
12 l1.sort()
13 for i in range(len(l1)):
14     print(l1[i],end=' ')
```

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Week6_Coding Attempt review

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	Input	Expected	Got	
✓	5 1 2 3 6 9 4 2 4 5 10	1 2 3 4 5 6 9 10	1 2 3 4 5 6 9 10	✓
✓	7 4 7 8 10 12 30 35 9 1 3 4 5 7 8 11 13 22	1 3 4 5 7 8 10 11 12 13 22 30 35	1 3 4 5 7 8 10 11 12 13 22 30 35	✓

Passed all tests! ✓

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