

Important Coding Problem

Question : 1

In []: Write a program to **return** the difference between the count of odd numbers **and** even numbers.

Note : You are expected to write code **in** the countOddEvenDifference function only which will receive the first parameter **as** the number of items **in** the array **and** second parameter **as** the array itself. you are **not** required to take input **from** the console.

Example
Finding the difference between the count of odd **and** even numbers **from** a list of 5 number

Input
input 1 : 8
input 2 : 10 20 30 40 55 66 77 83

Output
-2

Explanation
The first paramter (8) **is** the szie of the array. Next **is** an array of integers.
The calculation of difference between count sum of odd **and** even numbers **is as** follows:

3 (count of odd numbers) - 5 (count of even numbers) = -2

Solution:

```
In [3]: def countOddEvenDifference(n,array):
        count_odd=0
        count_even=0
        for i in array:
            if i%2==0:
                count_even+=1
            else:
                count_odd+=1
        return count_odd-count_even
l=[10,20,30,40,55,66,77,83]
print(countOddEvenDifference(8,l))
print(l)
```

-2
[10, 20, 30, 40, 55, 66, 77, 83]

Question : 2

In []: Write a program to find the difference between the elements at odd index **and** even index.

Note : You are expected to write code **in** the findDifference function only which receive the first parameter **as** the numbers of items **in** the array **and** second parameter **as** the array itself. You are **not** required to take the input **from** the console.

Example

Input
input 1 : 7
input 2 : 10 20 30 40 50 60 70

Output
40

Explanation
The first parameter 7 **is** the size of the array. Sum of element at even index of array **is** 10 + 30 + 50 + 70 = 160 **and** sum of elements at odd index of array **is** 20 + 40 + 60 = 120.
The difference between both **is** 40

Solution:

```
In [4]: def findDifference(n,array):
        even_index=0
        odd_index=0
        for i in range(n): #for i in range(7): --> 0 1 2 3 4 5 6
            if i%2==0:
                even_index+=array[i]
            else:
                odd_index+=array[i]

        return even_index-odd_index

print(findDifference(7,[10,20,30,40,50,60,70]))
```

40

Question : 3

In []: A Cloth merchant has some pieces of cloth of different lengths. He has an order of curtains of length of 12 feet. He has to find how many curtains can be made **from** these pieces. Length of pieces of cloth **is** recorded **in** feet.

Note : You are expected to write code **in** the findTotalCurtains function only which receive the first parameter **as** the number of items **in** the array **and** second parameter **as** the array itself. You are **not** required to take the input **from** the console.

Example
Finding the total curtains **from** a list of 5 cloth pieces.

Input
input 1 : 5
input 2 : 3 42 60 6 14

Output
9

Explanation
The first parameter 5 **is** the size of the array. Next **is** an array of measurements **in** feet.
The total number of curtains **is** 5 which **is** calculated **as** under

Solution:

```
In [6]: def findTotalCurtains(n,array):
        sum=0
        for i in array:
            sum+=i//12
        return sum
findTotalCurtains(5,[3,42,60,6,14])
```

Question : 4

In []: Write a program to **return** the difference between the largest **and** smallest numbers **from** an array of positive integers.

Note:

You are expected to write code **in** the findLargeSmallDifference function only which will receive the first parameter **as** the number of items **in** the array **and** the second parameter **is** the array itself. You are **not** required to take input **from** the console.

Example:

Finding the difference between the largest **and** smallest **from** a list of 5 numbers.

Input

Input1: 5

Input2: 10 11 7 12 14

Output

7

Explanation:
The first parameter(5) **is** the size of the array. Next **is** an array of integers.
The difference between largest (14) **and** smallest(7) **is** 7.

Solution:

```
In [1]: def diff_max_min(n,array):
        return max(array)-min(array)
diff_max_min(5,[1,2,3,4,5])
```

Out[1]: 4

Question : 5

In []: Write a program to merge characters of 2 strings into a single string by taking characters alternatively?

Input:
s1='CAR'
s2='MIN'

Output: "CMAIRN"

Note --> The length of both the strings must be same.

Solution:

```
In [2]: #With lambda function
def StringsMerge(s1,s2):
    x= list(map(lambda x,y:x+y,s1,s2))
    return "".join(x)
StringsMerge("CAR","MIN")
```

Out[2]: 'CMAIRN'

```
In [3]: #Without Lambda Function
def StringsMerge_Sec(s1,s2):
    i,j=0,0
    output=""
    while i<len(s1) or j<len(s2):
        output=output+s1[i]+s2[i]
        i=i+1
        j=j+1
    return output
StringsMerge_Sec("CAR","MIN")
```

Out[3]: 'CMAIRN'