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Register No: 23MCA1030

Q2. Create a list that consists of N integers. Write a Python program to insert a new element between any pair of consecutive elements. The new element is the average of any two consecutive integers. For example, if the array is 12,34,56,78 then the average of two consecutive integers 12 and 34 is 23 should be inserted between 12 and 34. The average of 34 and 56 is 45, which should be inserted as shown 12,23,34,45,56,67,78.

```
print("Registration No : 23MCA1030")
print("Name : Vinayak Kumar Singh")
myinputsring = input("Enter the list: ")
list1 = [int(item) for item in myinputsring.split()]
list2 = [list1[0]]

for i in range(len(list1) - 1):
    average = (list1[i] + list1[i + 1]) / 2
    if average.is_integer():
        list2.append(int(average))
    else:
        list2.append(average)
        list2.append(list1[i + 1])

print(list2)
```

OUTPUT OF QUESTION 2:

insertaveragebetween.py X

LAB > insertaveragebetween.py > ...

```
1 print("Registration No : 23MCA1030")
2 print("Name : Vinayak Kumar Singh")
3 myinputsring = input("Enter the list: ")
4 list1 = [int(item) for item in myinputsring.split()]
5 list2 = [list1[0]]
6
7 for i in range(len(list1) - 1):
8     average = (list1[i] + list1[i + 1]) / 2
9     if average.is_integer():
10         list2.append(int(average))
11     else:
12         list2.append(average)
13     list2.append(list1[i + 1])
14
15 print(list2)
```

PROBLEMS OUTPUT TERMINAL

Microsoft Windows [Version 10.0.22621.2134]

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D:\MCA\6. Python Programming + LAB>python -u "d:\MCA\6. Python Programming + LAB\LAB\insertaveragebetween.py"

Registration No : 23MCA1030

Name : Vinayak Kumar Singh

Enter the list: 12 34 56 78

[12, 23, 34, 45, 56, 67, 78]

D:\MCA\6. Python Programming + LAB>