Sample: Python - Averages and Longest Word

Problem No. 1

```
# Find the longest word in the list

def find_longest_word(wordList):
    "Function for search the longest word in the given list"
    # let the first element be the longest
    max_element = wordList[0]
    for curr_element in wordList:
        # if the current element of the list is longer then maximal,
        # than the current is the longest
        if len(curr_element) > len(max_element):
            max_element = curr_element
    # return the longest element
    return max_element


print("Enter a few words and I will find the longest")
#input string from console
new_string = input()
# make a list of string by divider ' ' using the built-in function split
new_list = new_string.split(" ")
# removing empty elements from the list
new_list = list(filter(None, new_list))
print("The list of words entered is:")
print(new_list)
# searching the longestelement in the list
longest_element = find_longest_word(new_list)
print("The longest word is:")
print(longest element)
```

Problem No. 2

```
# find average of numbers

def allNumAvg(numList):
    "Find average of all numbers in the given list"
    my_sum = 0
    for element in numList:
        my_sum += element
    return my_sum/len(numList)

def posNumAvg(numList):
    "Find average of all positive numbers"
    my_sum = 0
    count = 0
    for element in numList:
        if element > 0:
            my_sum += element
            count += 1
    if count == 0:
        return 0
    return my_sum/count

def nonPosAvg(numList):
    "Find average of all numbers that are less than or equal to zero"
    my_sum = 0
    count = 0
    for element in numList:
        if element <= 0:
            my_sum += element
            count += 1
    if count == 0:
        return 0
    return my sum/count
```

```
print("Enter a number (-9999 to end):", end='')
new_number = input()
number_list = []

# does the current number equals -9999 or not
while new_number != "-9999":
    # if you type an empty symbol nothing will be added to list
    if new_number == "":
        pass
    else:
        number_list.append(int(new_number))
    print("Enter a number (-9999 to end):", end='')
    new_number = input()

# dictionary for results
result_dictionary = {}
# calculate all averages
result_dictionary['AvgPositive'] = posNumAvg(number_list)
# calculate only average of positive numbers
result_dictionary['AvgNonPos'] = nonPosAvg(number_list)
# calculate only average of negative numbers
result_dictionary['AvgAllNum'] = allNumAvg(number_list)

print("List of all numbers entered is:")
print(number_list)
print("The dictionary with average is:")
print(result_dictionary)
```