In [ ]:
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##Assignment 2
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In [ ]:
```
#Question 1
#1. Write a program that asks the user to enter a list of at least five integers. Do the following:
#(a) Print out the total number of items in the list.
#(b) Print out the fourth item (index 3) in the list.
#(c) Print out the last three items in the list.
#(d) Print out all the items in the list except the first two.
#(e) Print out the list in reverse order.
#(f) Print out the largest and smallest values in the list.
#(g) Print out the sum of all the values in the list.
#(h) If the list contains a zero, print out the index of the first zero in the list, and otherwise print out a message saying there are no zeroes.
#(i) Sort the list and print out the list after sorting.
#(j) Delete the first item from the (now sorted) list and print out the new list.
#(k) Change the second-to-last item in the list to 9876 and print out the new list.
#(l) Append the value -500 to the end of the list and print out the new list.
```

In [20]:
```
list1=[]
for i in range(5):
    Integer=eval(input("Please enter a number "))
    list1.append(Integer)
print("(a)Total Number of Items in the list are :",len(list1))
print("(b)The Fourth item in the list is ",list1[3])
print("(c)The last three items in the list are ",list1[-3:])
print("(d)All the items in the list except the first two are ",list1[2:])
print("(e)The list in Reverse order is ",list1[::-1])
print("(f)The largest value in the list is ",max(list1)," and the Smallest value in the list is ",min(list1))
sum_list=sum(list1)
print("(g)The Sum of all the values in the list is ",sum_list)
if 0 in list1:
      print("(h) The index of the first zero in the list is ",list1.index(0))
else:
      print("(h)There are no Zeros in the list")
list2=sorted(list1)
print("(i)The list after sorting is :",list2)
del list2[0]
print("(j)The New list after deleting the first element of Sorted list is :" , list2)
list1[3]=9876
print("(k)The New list after Changing the second-to-last item in the list to 9876 is ",list1)
list1.append(-500)
print("(l) The New list after Appending the value -500 to the end of the list is ",list1)
```

```
Please enter a number 5
Please enter a number 3
Please enter a number 2
Please enter a number 8
Please enter a number 0
(a)Total Number of Items in the list are : 5
(b)The Fourth item in the list is  8
(c)The last three items in the list are  [2, 8, 0]
(d)All the items in the list except the first two are  [2, 8, 0]
(e)The list in Reverse order is  [0, 8, 2, 3, 5]
(f)The largest value in the list is  8  and the Smallest value in the list is  0
(g)The Sum of all the values in the list is  18
(h) The index of the first zero in the list is  4
(i)The list after sorting is : [0, 2, 3, 5, 8]
(j)The New list after deleting the first element of Sorted list is : [2, 3, 5, 8]
(k)The New list after Changing the second-to-last item in the list to 9876 is  [5, 3, 2, 9876, 0]
(l) The New list after Appending the value -500 to the end of the list is  [5, 3, 2, 9876, 0, -500]
```

In [21]:
```
list1=[]
for i in range(5):
    Integer=eval(input("Please enter a number "))
    list1.append(Integer)
print("(a)Total Number of Items in the list are :",len(list1))
print("(b)The Fourth item in the list is ",list1[3])
print("(c)The last three items in the list are ",list1[-3:])
print("(d)All the items in the list except the first two are ",list1[2:])
print("(e)The list in Reverse order is ",list1[::-1])
print("(f)The largest value in the list is ",max(list1)," and the Smallest value in the list is ",min(list1))
sum_list=sum(list1)
print("(g)The Sum of all the values in the list is ",sum_list)
if 0 in list1:
      print("(h) The index of the first zero in the list is ",list1.index(0))
else:
      print("(h)There are no Zeros in the list")
list2=sorted(list1)
print("(i)The list after sorting is :",list2)
del list2[0]
print("(j)The New list after deleting the first element of Sorted list is :" , list2)
list1[3]=9876
print("(k)The New list after Changing the second-to-last item in the list to 9876 is ",list1)
list1.append(-500)
print("(l) The New list after Appending the value -500 to the end of the list is ",list1)
```

```
Please enter a number 7
Please enter a number 4
Please enter a number 6
Please enter a number 2
Please enter a number 1
(a)Total Number of Items in the list are : 5
(b)The Fourth item in the list is  2
(c)The last three items in the list are  [6, 2, 1]
(d)All the items in the list except the first two are  [6, 2, 1]
(e)The list in Reverse order is  [1, 2, 6, 4, 7]
(f)The largest value in the list is  7  and the Smallest value in the list is  1
(g)The Sum of all the values in the list is  20
(h)There are no Zeros in the list
(i)The list after sorting is :  [1, 2, 4, 6, 7]
(j)The New list after deleting the first element of Sorted list is : [2, 4, 6, 7]
(k)The New list after Changing the second-to-last item in the list to 9876 is  [7, 4, 6, 9876, 1]
(l) The New list after Appending the value -500 to the end of the list is  [7, 4, 6, 9876, 1, -500]
```

In [ ]:
```
#Question2
#2. Write a program that asks the user to enter a list of numbers. Then print out the smallest thing in the list and the first index at which it appears in the list.
```

In [22]:
```
list1=[]
for i in range(5):
    Integer=eval(input("Please enter a number "))
    list1.append(Integer)
min_number=min(list1)
print("The smallest thing in the list is :" ,min_number)
print("The first index at which the smallest thing appears is  : " ,list1.index(min_number))
```

```
Please enter a number 9
Please enter a number 10
Please enter a number 7
Please enter a number 4
Please enter a number 2
The smallest thing in the list is : 2
The first index at which the smallest thing appears is  :  4
```

In [23]:
```
list1=[]
for i in range(5):
    Integer=eval(input("Please enter a number "))
    list1.append(Integer)
min_number=min(list1)
print("The smallest thing in the list is :" ,min_number)
print("The first index at which the smallest thing appears is  : " ,list1.index(min_number))
```

```
Please enter a number 2
Please enter a number 2
Please enter a number 6
Please enter a number 8
Please enter a number 2
The smallest thing in the list is : 2
The first index at which the smallest thing appears is  :  0
```

In [ ]:
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#Question3
#3. Write a program that asks the user to enter a string of lowercase letters and creates a list containing counts of how many times each letter appears in the string. The first in
```

In [50]:
```
from collections import Counter
string1=input("Please enter a string :")
string2=string1.lower()
list1=Counter(string2).most_common()
print("list containing counts of how many times each letter appears in the string is",list1)
```

```
Please enter a string :fnlnklnngg
list containing counts of how many times each letter appears in the string is [('n', 4), ('l', 2), ('g', 2), ('f', 1), ('k', 1)]
```

In [46]:
```
#Question4
#4. Create a dictionary whose keys are the strings 'abc', 'def', 'ghi', 'jkl', and 'mno' and whose corresponding values are 7, 11, 13, 17, and 19. Then write dictionary code that d
#(a) Print the value in the dictionary associated with the key 'def'.
#(b) Use the keys() method to print out all the keys.
#(c) Loop over the dictionary and print out all the keys and their associated values.
#(d) Use an if statement to check if the dictionary contains the key 'pqr' and print out an appropriate
#message indicating whether it does or doesn't.
#(e) Change the value associated with the key 'abc' to 23 and then print out all the values in the
#dictionary using the values() method.
```

In [68]:
```
dict1={"abc":7,"def":11,"ghi":13,"jkl":17,"mno":19}
print("(a)The value in the dictionary associated with the key 'def' is \n",dict1["def"])
print("(b) Used the keys() method to print out all the keys \n",dict1.keys())
print("(c) Looping over the dictionary and printing out all the keys and their associated values.")
for k,v in dict1.items():
    print(k,":",v)
if "pqr" in dict1.keys():
    print("(d)The key pqr exist")
else:
    print("(d)The key pqr does not exist")
dict1["abc"]=23
print("(e) Changed the value associated with the key 'abc' to 23 and priningt out all the values in the \n dictionary using the values() method \n",dict1.values())
```

```
(a)The value in the dictionary associated with the key 'def' is
 11
(b) Used the keys() method to print out all the keys
 dict_keys(['abc', 'def', 'ghi', 'jkl', 'mno'])
(c) Looping over the dictionary and printing out all the keys and their associated values.
abc : 7
def : 11
ghi : 13
jkl : 17
mno : 19
(d)The key pqr does not exist
(e) Changed the value associated with the key 'abc' to 23 and priningt out all the values in the
 dictionary using the values() method
 dict_values([23, 11, 13, 17, 19])
```