1st question

In [14]:
```
numbers = input("Enter a list of at least five integers, separated by spaces: ").split()
numbers = [int(num) for num in numbers]

print("Total number of items in the list:", len(numbers))

print("Fourth item in the list:", numbers[3])

print("Last three items in the list:", numbers[-3:])

print("Items in the list except the first two:", numbers[2:])

print("List in reverse order:", numbers[::-1])

print("Largest value in the list:", max(numbers))
print("Smallest value in the list:", min(numbers))

print("Sum of all values in the list:", sum(numbers))

if 0 in numbers:
    zero_index = numbers.index(0)
    print("Index of the first zero in the list:", zero_index)
else:
    print("There are no zeroes in the list.")

sorted_numbers = sorted(numbers)
print("Sorted list:", sorted_numbers)

del sorted_numbers[0]
print("Sorted list after deleting the first item:", sorted_numbers)

sorted_numbers[2:len(numbers)-1] = [9,8,7,6]
print("Sorted list after changing the second-to-last item:", sorted_numbers)

sorted_numbers.append(-500)
print("Sorted list after appending -500:", sorted_numbers)
```

```
Enter a list of at least five integers, separated by spaces: 2 3 4 5 6 0 9  1 0
Total number of items in the list: 9
Fourth item in the list: 5
Last three items in the list: [9, 1, 0]
Items in the list except the first two: [4, 5, 6, 0, 9, 1, 0]
List in reverse order: [0, 1, 9, 0, 6, 5, 4, 3, 2]
Largest value in the list: 9
Smallest value in the list: 0
Sum of all values in the list: 30
Index of the first zero in the list: 5
Sorted list: [0, 0, 1, 2, 3, 4, 5, 6, 9]
Sorted list after deleting the first item: [0, 1, 2, 3, 4, 5, 6, 9]
Sorted list after changing the second-to-last item: [0, 1, 9, 8, 7, 6]
Sorted list after appending -500: [0, 1, 9, 8, 7, 6, -500]
```

2nd question

In [17]:
```
def find_smallest_number(numbers):
    smallest = float('inf')
    smallest_index = -1

    for i, num in enumerate(numbers):
        if num < smallest:
            smallest = num
```

```
            smallest_index = i

    return smallest, smallest_index


user_input = input("Enter a list of numbers (space-separated): ")
numbers = list(map(int, user_input.split()))

smallest_number, smallest_index = find_smallest_number(numbers)

print("Smallest number:", smallest_number)
print("First index:", smallest_index)
```

```
Enter a list of numbers (space-separated): 2 3 4 5 6 7 8 9 1 0
Smallest number: 0
First index: 9
```

3rd question

In [18]:

```
def count_letters(string):
    counts = [0] * 26
    for char in string:
        if 'a' <= char <= 'z':
            index = ord(char) - ord('a')
            counts[index] += 1
    return counts

input_string = input("Enter a string of lowercase letters: ")
letter_counts = count_letters(input_string)

for i in range(26):
    letter = chr(ord('a') + i)
    count = letter_counts[i]
    print(f"The letter '{letter}' appears {count} time(s) in the string.")
```

```
Enter a string of lowercase letters: supraja reddy anugula
The letter 'a' appears 4 time(s) in the string.
The letter 'b' appears 0 time(s) in the string.
The letter 'c' appears 0 time(s) in the string.
The letter 'd' appears 2 time(s) in the string.
The letter 'e' appears 1 time(s) in the string.
The letter 'f' appears 0 time(s) in the string.
The letter 'g' appears 1 time(s) in the string.
The letter 'h' appears 0 time(s) in the string.
The letter 'i' appears 0 time(s) in the string.
The letter 'j' appears 1 time(s) in the string.
The letter 'k' appears 0 time(s) in the string.
The letter 'l' appears 1 time(s) in the string.
The letter 'm' appears 0 time(s) in the string.
The letter 'n' appears 1 time(s) in the string.
The letter 'o' appears 0 time(s) in the string.
The letter 'p' appears 1 time(s) in the string.
The letter 'q' appears 0 time(s) in the string.
The letter 'r' appears 2 time(s) in the string.
The letter 's' appears 1 time(s) in the string.
The letter 't' appears 0 time(s) in the string.
The letter 'u' appears 3 time(s) in the string.
The letter 'v' appears 0 time(s) in the string.
The letter 'w' appears 0 time(s) in the string.
The letter 'x' appears 0 time(s) in the string.
The letter 'y' appears 1 time(s) in the string.
The letter 'z' appears 0 time(s) in the string.
```

4th question

In [19]:

```
my_dict = {'abc': 7, 'def': 11, 'ghi': 13, 'jkl': 17, 'mno': 19}

print(my_dict['def'])

print(my_dict.keys())

for key, value in my_dict.items():
    print(key, value)

if 'pqr' in my_dict:
    print("The dictionary contains the key 'pqr'")
else:
    print("The dictionary does not contain the key 'pqr'")

my_dict['abc'] = 23

print(my_dict.values())
```

```
11
dict_keys(['abc', 'def', 'ghi', 'jkl', 'mno'])
abc 7
def 11
ghi 13
jkl 17
mno 19
The dictionary does not contain the key 'pqr'
dict_values([23, 11, 13, 17, 19])
```