1. Python function that takes a list of words and returns the longest word and the length of the longest one.

```
def find_longest_word(words_list):
    word_len = []
    for n in words_list:
        word_len.append((len(n), n))
    word_len.sort()
    return word_len[-1][0], word_len[-1][1]
result = find_longest_word(["PHP", "Exercises", "Backend"])
print("\nLongest word: ",result[1])
print("Length of the longest word: ",result[0])
```

Output:-

```
Longest word:  Exercises
Length of the longest word:  9
```

2. Python function to remove the nth index character from a nonempty string.

```
def remove(string, n):
      first = string[:n]
      last = string[n+1:]
      return first + last
string=input("Enter the sring:")
n=int(input("Enter the index of the character to remove:"))
print("Modified string:")
print(remove(string, n))
```

Output:-

```
Enter the sring:checking
Enter the index of the character to remove:4
Modified string:
checing
```

3. Python function to get the last part of a string before a specified character.

```
str1 = 'https://www.w3resource.com/python-exercises/string'
print(str1.rsplit('/', 1)[0])
print(str1.rsplit('-', 1)[0])
```

Output:-

https://www.w3resource.com/python-exercises
https://www.w3resource.com/python

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```
string = 'bobby-hadz-com'
# Get part of string before FIRST occurrence of character
before_character = string.split('-', 1)[0]
print(before_character)
# Get part of string before LAST occurrence of character
before_character = string.rsplit('-', 1)[0]
print(before_character)
```

Output:-

```
bobby
bobby-hadz
```

4. Python function to sort a string lexicographically.

```
# custom sorting function for lexicographical sorting of string
def lexicalSort(input_string):

    # using the split() function to get a list of words
    listOfWords = input_string.split()
    # using sort() function
    listOfWords.sort()
    # variballe to store output string
    output_str = ""
    # forming a sorted string
    for word in listOfWords:
        output_str = output_str+word+" "

    return output_str

# initial string
initial_str = "bob eating apple and dessert in cafe"
# Printing original string
print ("string before sorting: ",initial_str)
# calling custom lexical sort function
print ("string after sorting: ",lexicalSort(initial_str))
```

Output:-

```
 string before sorting:  bob eating apple and dessert in cafe
string after sorting:  and apple bob cafe dessert eating in
```

5. Python function to remove spaces from a given string.

```
# Python3 code to remove whitespace
def remove(string):
    ns=""
    for i in string:
        if(not i.isspace()):
            ns+=i
    return ns
# Driver Program
string = ' g e e k '
print(remove(string))
```

Output:- `geek`