```
##1. Python function that takes a list of words and return the  longest word and the length of the longest one.
# function to find the longest length in the list
def longestLengthWord(wordsLst):
    finalWordsList = []

    for word in wordsLst:
        finalWordsList.append((len(word), word))

    finalWordsList.sort()

    print("The longestword is :", finalWordsList[-1][1],
          "and the length is ", len(finalWordsList[-1][1]))


inputWords = ["Python", "DataScience", "ML", "NLP"]
#inputWords = []
if not inputWords or len(inputWords) <= 0:
    print("input words list is empty")
else:
    longestLengthWord(inputWords)


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

def removenthIndex(inputStr, indexVal):
    if not inputStr or len(inputStr) <=0 :
        return "Invalid/empty string. Please enter valid string"
    elif not indexVal:
        return "Invalid index"
    elif  indexVal > len(inputStr):
        return "Index character do not exist in the string"
    else:
        firstPart = ''
        secondPart = ''
        if indexVal < 0:
            # extracts indexVal+1th index to end
            secondPart = inputStr[indexVal+1:]

            # extracts characters from  0 to indexVal
            firstPart = inputStr[:indexVal]

        else:
            # extracts 0 to indexVal-1th index
            firstPart = inputStr[0:indexVal]

            # extracts characters from indexVal+1th index until the end
            secondPart = inputStr[indexVal+1:]

        print("Modified string after removing ", inputStr, "th character ")
        # combining both the parts together
        return firstPart+secondPart

inputStr=input("Enter the input string: ")
indexVal=int(input("Enter the character index to be removed from string: "))
print(removenthIndex(inputStr,indexVal))
```

```
##3. Python function to get the last part of a string before a specified character.
str1 = input("Enter String :")
char1 = input("Enter a character :")
print(str1.rsplit(char1, 1)[0])

##4. Python function to sort a string lexicographically.
def sortByLexo(my_string):
    strChar =[];
    result = ""
    if not my_string or len(my_string)<=0:
        return "please enter valid String"
    else:
        words = my_string.strip().split()
        if(len(words) == 1 ):
            strChar = list(my_string.strip())
            # sort() will sort the strings.
            strChar.sort()
            print(" String after ordering lexicographically")
            result = result.join(strChar)
            print(result)
        else:
            # Split the my_string till where space is found.
            words.sort()
            print(" String after ordering lexicographically")
            for i in words:
              print( i )

inputStr=input("Enter the input string: ")
print(sortByLexo(inputStr))


##5. Python function to remove spaces from a given string.
# Python3 code to remove whitespace
#importing re pacage for regular expression
import re

def remove(inputStr):
    pattern = re.compile(r'\s+')
    return re.sub(pattern, '', string)

# Driver Program
inputStr = input("Enter String ")
print(remove(inputStr))
```