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

```
text = input("Please input a list of words to evaluate: ")
longest = 0
for words in text.split():
        if len(words) > longest:
            longest = len(words)
            longest_word = words

print("The longest word is =", longest_word)
print("Length of longest word is =", len(longest_word))
```

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

```
def remove_char(str, n):
        first_part = str[:n]
        last_part = str[n+1:]
        return first_part + last_part
print(remove_char('Python', 0))
print(remove_char('Python', 3))
print(remove_char('Python', 5))
```

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

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

4. **Python function to sort a string lexicographically.**

```
my_strings = ["hello","apple","actor","people","dog"]
print("given input string:", my_strings)
my_strings.sort()
print("output string:", my_strings)
```

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

```
def remove(string):
    return string.replace(" ", "")
string = ' p h y t h o n '
print(remove(string))
```