In [1]:
```python
# 1. Python function that takes a list of words and return the  longest word and the length of the longest one.
sentence = input("Enter sentence: ")

# Finding longest word
longest = max(sentence.split(), key=len)

# Displaying longest word
print("Longest word is: ", longest)
print("And its length is: ", len(longest))
```

```
Enter sentence: welcome to home
Longest word is:  welcome
And its length is:  7
```

In [3]:
```python
# 2. Python function to remove the nth index character from a nonempty string.

def remove_char(str, n):
      a = str[:n]
      b = str[n+1:]
      return a + b
print(remove_char('Welcome', 2))
print(remove_char('Welcome', 5))
```

```
Wecome
Welcoe
```

In [4]:
```python
# 3. Python function to get the last part of a string before a specified character.

str1 = input("Enter the string: ")
print(str1.rsplit(' ', 1)[0])
```

```
Enter the string: welcome to python programming
welcome to python
```

In [5]:
```python
# 4. Python function to sort a string lexicographically
def lexicographi_sort(s):
    return sorted(sorted(s))
s1=input("Enter the stentence: ")
lexicographi_sort(s1)
```

```
Enter the stentence: Hello friends!
```

Out[5]:
```
[' ', '!', 'H', 'd', 'e', 'e', 'f', 'i', 'l', 'l', 'n', 'o', 'r', 's']
```

In [6]:
```python
# 5. Python function to remove spaces from a given string.

def remove(string):
    return string.replace(" ", "")

string = input("Enter your string: ")
print(remove(string))
```

```
Enter your string: Welcome to all!
Welcometoall!
```

In [ ]:
```python

```