Chapter 8: More on Strings

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Objectives

- To use the **len**, **min**, and **max** functions to obtain the length of a string or the smallest or largest element in a string
- To compare strings by using comparison operators (==, !=, <, <=, >, and >=)
- To access string elements by using the index operator ([])
- To get a substring from a larger string by using the slicing **str[start:end]** operator
- To concatenate strings by using the + operator
- To iterate characters in a string by using a for loop
- To test strings by using the methods **isalnum**, **isalpha**, **isdigit**, **isidentifier**, **islower**, **isupper**, and **isspace**

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Functions for str

```
>>> s = "welcome"
>>> len(s)
7
>>> max(s)
w
>>> min(s)
c
```

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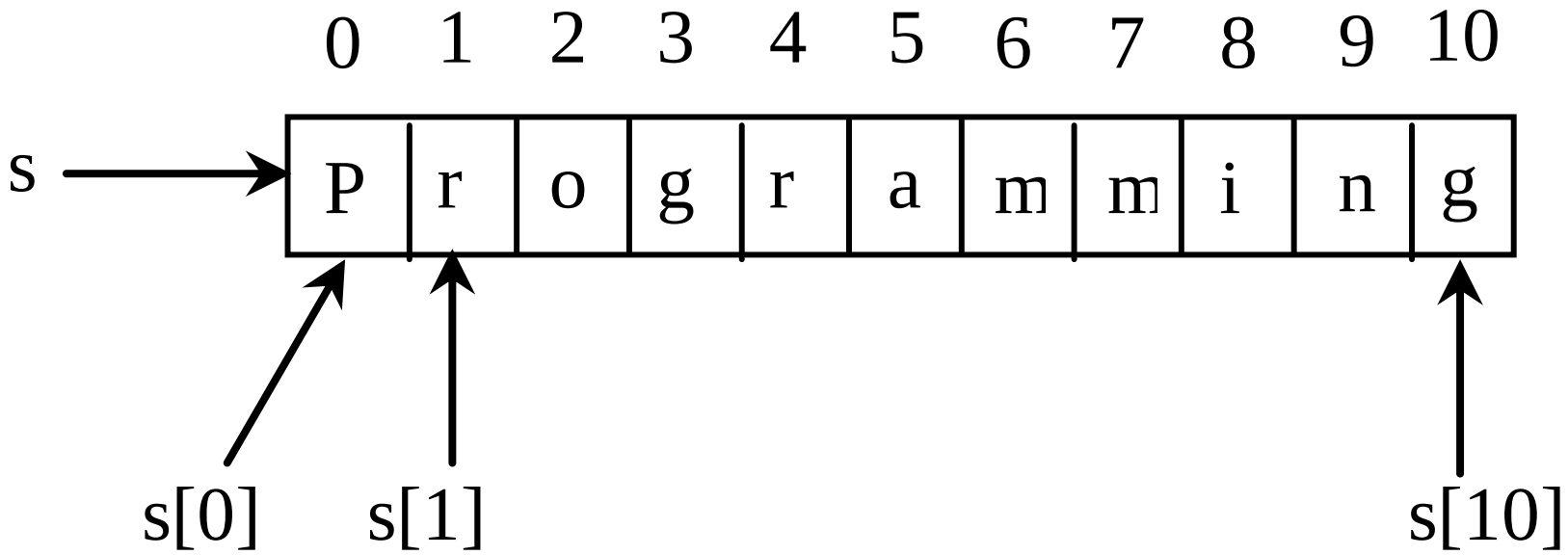
Index Operator []



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The +, *, [:], and in/not in Operators

```
>>> s1 = "Welcome"
>>> s2 = "Python"
>>> s3 = s1 + " to " + s2
>>> s3
'Welcome to Python'
>>> s3[11 : 13]
'Py'
>>> 'W' in s1
True
>>> 'X' in s1
False
>>> 'me' not in s1
False
```

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for Loop

```
for i in range(0, len(s)):
    print(s[i])
```

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Comparing Strings

```
>>> s1 = "go"
>>> s2 = "glow"
>>> s1 == s2
False
>>> s1 != s2
True
>>> s1 > s2
True
>>> s1 >= s2
True
>>> s1 < s2
False
>>> s1 <= s2
False
```

NOTE:
Length is not considered

ASCII/Unicode value is considered

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Testing Characters in a String

str	
isalnum(): bool	Return True if all characters in this string are alphanumeric and there is at least one character.
isalpha(): bool	Return True if all characters in this string are alphabetic and there is at least one character.
isdigit(): bool	Return True if this string contains only number characters.
islower(): bool	Return True if all characters in this string are lowercase letters and there is at least one character, that is, not empty string.
isupper(): bool	Return True if all characters in this string are uppercase letters and there is at least one character, that is, not empty string.
isspace(): bool	Return True if this string contains only whitespace characters.

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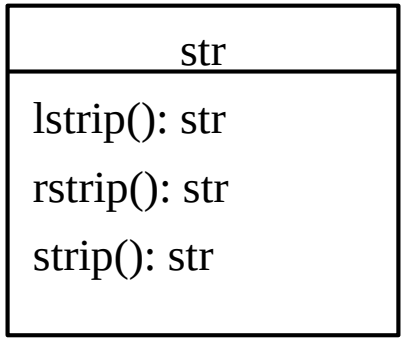
Stripping Whitespace Characters



Returns a string with the leading whitespace characters removed.

Returns a string with the trailing whitespace characters removed.

Returns a string with the starting and trailing whitespace characters removed.

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Problem: Finding Palindromes

Check whether a string is a palindrome (a string that reads the same forward and backward).

CheckPalindrome

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