Python String Methods with Explanation and Examples

capitalize()

Description: Converts the first character of the string to uppercase.

Example:

```
s = 'hello'

print(s.capitalize())  # Output: 'Hello'
```

casefold()

Description: Converts the string to lowercase for caseless matching.

Example:

```
s = 'HELLO'

print(s.casefold())  # Output: 'hello'
```

center(width, char)

Description: Centers the string using a specified character.

Example:

```
s = 'hello'

print(s.center(10, '-'))  # Output: '--hello---'
```

count(substring)

Description: Counts occurrences of a substring in the string.

Example:

```
s = 'banana'

print(s.count('a'))  # Output: 3
```

endswith(suffix)

Description: Checks if the string ends with the specified suffix.

Example:

```
s = 'hello'

print(s.endswith('o'))  # Output: True
```

find(substring)

Description: Finds the first occurrence of a substring.

Example:

```
s = 'hello'

print(s.find('e'))  # Output: 1
```

index(substring)

Description: Finds the first occurrence of a substring and raises an error if not found.

Example:

```
s = 'hello'

print(s.index('e'))  # Output: 1
```

isalnum()

Description: Checks if all characters are alphanumeric.

Example:

```
s = 'hello123'

print(s.isalnum())  # Output: True
```

isalpha()

Description: Checks if all characters are alphabetic.

Example:

```
s = 'hello'

print(s.isalpha())  # Output: True
```

isdigit()

Description: Checks if all characters are digits.

Example:

s = '12345'

print(s.isdigit()) # Output: True

islower()

Description: Checks if all characters are lowercase.

Example:

s = 'hello'

print(s.islower()) # Output: True

isspace()

Description: Checks if the string contains only whitespace.

Example:

s = '   '

print(s.isspace()) # Output: True

join(iterable)

Description: Joins elements of an iterable with the string as separator.

Example:

s = '-'

print(s.join(['a', 'b', 'c'])) # Output: 'a-b-c'

lower()

Description: Converts the string to lowercase.

Example:

s = 'HELLO'

print(s.lower()) # Output: 'hello'

replace(old, new)

Description: Replaces occurrences of a substring with another.

Example:

```
s = 'hello world'
print(s.replace('world', 'Python'))  # Output: 'hello Python'
```

split()

Description: Splits the string into a list of words.

Example:

```
s = 'hello world'
print(s.split())  # Output: ['hello', 'world']
```

startswith(prefix)

Description: Checks if the string starts with the specified prefix.

Example:

```
s = 'hello'
print(s.startswith('he'))  # Output: True
```

strip()

Description: Removes leading and trailing whitespace.

Example:

```
s = '  hello  '
print(s.strip())  # Output: 'hello'
```

title()

Description: Converts the first character of each word to uppercase.

Example:

```
s = 'hello world'
print(s.title())  # Output: 'Hello World'
```

upper()

Description: Converts the string to uppercase.

Example:

```
s = 'hello'

print(s.upper())  # Output: 'HELLO'
```