

String Methods for UNI Intro to Computing CS 1510

The full string methods listing can be found at <https://docs.python.org/3/library/stdtypes.html#string-methods>.

`str.capitalize()`

Return a copy of the string with its first character capitalized and the rest lowercased.

`str.center(width[, fillchar])`

Return centered in a string of length *width*. Padding is done using the specified *fillchar* (default is an ASCII space). The original string is returned if *width* is less than or equal to `len(s)`.

`str.count(sub[, start[, end]])`

Return the number of non-overlapping occurrences of substring *sub* in the range *[start, end]*. Optional arguments *start* and *end* are interpreted as in slice notation.

`str.encode(encoding="utf-8", errors="strict")`

Return an encoded version of the string as a bytes object. Default encoding is 'utf-8'. *errors* may be given to set a different error handling scheme. The default for *errors* is 'strict', meaning that encoding errors raise a `UnicodeError`. Other possible values are 'ignore', 'replace', 'xmlcharrefreplace', 'backslashreplace' and any other name registered via `codecs.register_error()`, see section [Error Handlers](#). For a list of possible encodings, see section [Standard Encodings](#).

Changed in version 3.1: Support for keyword arguments added.

`str.endswith(suffix[, start[, end]])`

Return `True` if the string ends with the specified *suffix*, otherwise return `False`. *suffix* can also be a tuple of suffixes to look for. With optional *start*, test beginning at that position. With optional *end*, stop comparing at that position.

`str.find(sub[, start[, end]])`

Return the lowest index in the string where substring *sub* is found within the slice `s[start:end]`. Optional arguments *start* and *end* are interpreted as in slice notation. Return `-1` if *sub* is not found.

Note

The `find()` method should be used only if you need to know the position of *sub*. To check if *sub* is a substring or not, use the `in` operator:

```
>>>  
>>> 'Py' in 'Python'  
True
```

`str.index(sub[, start[, end]])`

Like `find()`, but raise `ValueError` when the substring is not found.

`str.isalnum()`

Return true if all characters in the string are alphanumeric and there is at least one character, false otherwise. A character `c` is alphanumeric if one of the following returns True: `c.isalpha()`, `c.isdecimal()`, `c.isdigit()`, or `c.isnumeric()`.

`str.isalpha()`

Return true if all characters in the string are alphabetic and there is at least one character, false otherwise. Alphabetic characters are those characters defined in the Unicode character database as “Letter”, i.e., those with general category property being one of “Lm”, “Lt”, “Lu”, “Ll”, or “Lo”. Note that this is different from the “Alphabetic” property defined in the Unicode Standard.

`str.isdecimal()`

Return true if all characters in the string are decimal characters and there is at least one character, false otherwise. Decimal characters are those that can be used to form numbers in base 10, e.g. U+0660, ARABIC-INDIC DIGIT ZERO. Formally a decimal character is a character in the Unicode General Category “Nd”.

`str.isdigit()`

Return true if all characters in the string are digits and there is at least one character, false otherwise. Digits include decimal characters and digits that need special handling, such as the compatibility superscript digits. This covers digits which cannot be used to form numbers in base 10, like the Kharosthi numbers. Formally, a digit is a character that has the property value `Numeric_Type=Digit` or `Numeric_Type=Decimal`.

`str.islower()`

Return true if all cased characters [\[4\]](#) in the string are lowercase and there is at least one cased character, false otherwise.

`str.isnumeric()`

Return true if all characters in the string are numeric characters, and there is at least one character, false otherwise. Numeric characters include digit characters, and all characters that have the Unicode numeric value property, e.g. U+2155, VULGAR FRACTION ONE FIFTH. Formally,

numeric characters are those with the property value `Numeric_Type=Digit`, `Numeric_Type=Decimal` or `Numeric_Type=Numeric`.

`str.isprintable()`

Return true if all characters in the string are printable or the string is empty, false otherwise. Nonprintable characters are those characters defined in the Unicode character database as “Other” or “Separator”, excepting the ASCII space (0x20) which is considered printable. (Note that printable characters in this context are those which should not be escaped when `repr()` is invoked on a string. It has no bearing on the handling of strings written to `sys.stdout` or `sys.stderr`.)

`str.isspace()`

Return true if there are only whitespace characters in the string and there is at least one character, false otherwise. Whitespace characters are those characters defined in the Unicode character database as “Other” or “Separator” and those with bidirectional property being one of “WS”, “B”, or “S”.

`str.isupper()`

Return true if all cased characters [4] in the string are uppercase and there is at least one cased character, false otherwise.

`str.join(iterable)`

Return a string which is the concatenation of the strings in *iterable*. A `TypeError` will be raised if there are any non-string values in *iterable*, including `bytes` objects. The separator between elements is the string providing this method.

`str.ljust(width[, fillchar])`

Return the string left justified in a string of length *width*. Padding is done using the specified *fillchar* (default is an ASCII space). The original string is returned if *width* is less than or equal to `len(s)`.

`str.lower()`

Return a copy of the string with all the cased characters [4] converted to lowercase.

`str.replace(old, new[, count])`

Return a copy of the string with all occurrences of substring *old* replaced by *new*. If the optional argument *count* is given, only the first *count* occurrences are replaced.

`str.split(sep=None, maxsplit=-1)`

Return a list of the words in the string, using *sep* as the delimiter string. If *maxsplit* is given, at most *maxsplit* splits are done (thus, the list will have at most *maxsplit*+1 elements). If *maxsplit* is not specified or -1, then there is no limit on the number of splits (all possible splits are made).

If *sep* is given, consecutive delimiters are not grouped together and are deemed to delimit empty strings (for example, `'1,,2'.split(',')` returns `['1', '', '2']`). The *sep* argument may consist of multiple characters (for example, `'1<>2<>3'.split('<>')` returns `['1', '2', '3']`). Splitting an empty string with a specified separator returns `['']`.

For example:

```
>>>
>>> '1,2,3'.split(',')
['1', '2', '3']
>>> '1,2,3'.split(',', maxsplit=1)
['1', '2,3']
>>> '1,2,,3,.'.split(',')
['1', '2', '', '3', '']
```

If *sep* is not specified or is `None`, a different splitting algorithm is applied: runs of consecutive whitespace are regarded as a single separator, and the result will contain no empty strings at the start or end if the string has leading or trailing whitespace. Consequently, splitting an empty string or a string consisting of just whitespace with a `None` separator returns `[]`.

For example:

```
>>>
>>> '1 2 3'.split()
['1', '2', '3']
>>> '1 2 3'.split(maxsplit=1)
['1', '2 3']
>>> ' 1 2 3 '.split()
['1', '2', '3']
```

`str.startswith(prefix[, start[, end]])`

Return `True` if string starts with the *prefix*, otherwise return `False`. *prefix* can also be a tuple of prefixes to look for. With optional *start*, test string beginning at that position. With optional *end*, stop comparing string at that position.

`str.strip([chars])`

Return a copy of the string with the leading and trailing characters removed. The *chars* argument is a string specifying the set of characters to be removed. If omitted or `None`, the *chars* argument defaults to removing whitespace. The *chars* argument is not a prefix or suffix; rather, all combinations of its values are stripped:

```
>>>
>>> '  spacious  '.strip()
'spacious'
>>> 'www.example.com'.strip('cmowz.')
'example'
```

The outermost leading and trailing *chars* argument values are stripped from the string. Characters are removed from the leading end until reaching a string character that is not contained in the set of characters in *chars*. A similar action takes place on the trailing end. For example:

```
>>>
>>> comment_string = '#..... Section 3.2.1 Issue #32 .....'
>>> comment_string.strip('.#! ')
'Section 3.2.1 Issue #32'
```

`str.swapcase()`

Return a copy of the string with uppercase characters converted to lowercase and vice versa. Note that it is not necessarily true that `s.swapcase().swapcase() == s`.

`str.upper()`

Return a copy of the string with all the cased characters [\[4\]](#) converted to uppercase. Note that `s.upper().isupper()` might be `False` if `s` contains uncased characters or if the Unicode category of the resulting character(s) is not “Lu” (Letter, uppercase), but e.g. “Lt” (Letter, titlecase).

The uppercasing algorithm used is described in section 3.13 of the Unicode Standard.