

# Python Write Text File

**Summary:** in this tutorial, you'll learn various ways to write text files in Python.

## TL;DR

The following illustrates how to write a string to a text file:

```
with open('readme.txt', 'w') as f:  
    f.write('readme')
```

## Steps for writing to text files

To write to a text file in Python, you follow these steps:

- First, open the text file for writing (or append) using the `open()` function.
- Second, write to the text file using the `write()` or `writelines()` method.
- Third, close the file using the `close()` method.

The following shows the basic syntax of the `open()` function:

```
f = open(file, mode)
```

The `open()` function accepts many parameters. But you'll focus on the first two:

- The `file` parameter specifies the path to the text file that you want to open for writing.
- The `mode` parameter specifies the mode for which you want to open the text file.

For writing to a text file, you use one of the following modes:

Mode	Description
'w'	Open a text file for writing. If the file exists, the function will truncate all the contents as soon as you open it. If the file doesn't exist, the function creates a new file.
'a'	Open a text file for appending text. If the file exists, the function append contents at the end of the file.
'+'	Open a text file for updating (both reading & writing).

The `open()` function returns a file object that has two useful methods for writing text to the file: `write()` and `writelines()`.

- The `write()` method writes a string to a text file.
- The `writelines()` method write a list of strings to a file at once.

The `writelines()` method accepts an `iterable` object, not just a `list`, so you can pass a `tuple` of strings, a `set` of strings, etc., to the `writelines()` method.

To write a line to a text file, you need to manually add a new line character:

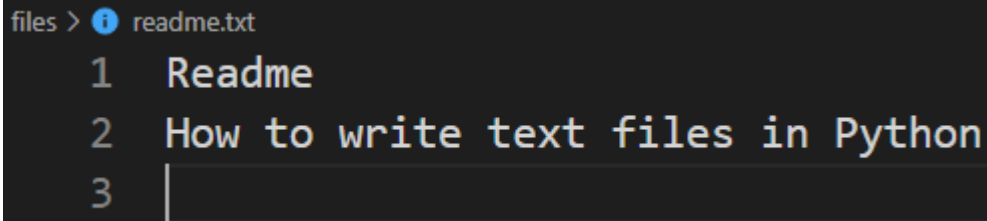
```
f.write('\n')
f.writelines('\n')
```

## Writing text file examples

The following example shows how to use the `write()` function to write a list of texts to a text file:

```
lines = ['Readme', 'How to write text files in Python']
with open('readme.txt', 'w') as f:
    for line in lines:
        f.write(line)
        f.write('\n')
```

If the `readme.txt` file doesn't exist, the `open()` function will create a new file.

A screenshot of a file editor window. The title bar shows 'files > i readme.txt'. The editor contains three lines of text: '1 Readme', '2 How to write text files in Python', and '3 |' where the vertical bar indicates the current cursor position at the end of the third line.

```
files > i readme.txt
1 Readme
2 How to write text files in Python
3 |
```

The following shows how to write a list of text strings to a text file:

```
lines = ['Readme', 'How to write text files in Python']
with open('readme.txt', 'w') as f:
    f.writelines(lines)
```

If you treat each element of the list as a line, you need to concatenate it with the newline character like this:

```
lines = ['Readme', 'How to write text files in Python']
with open('readme.txt', 'w') as f:
    f.write('\n'.join(lines))
```

## Appending text files

To append to a text file, you need to open the text file for appending mode. The following example appends new lines to the `readme.txt` file:

```
more_lines = ['', 'Append text files', 'The End']

with open('readme.txt', 'a') as f:
    f.write('\n'.join(more_lines))
```

Output:

## Writing to a UTF-8 text file

If you write UTF-8 characters to a text file using the code from the previous examples, you'll get an error like this:

```
UnicodeEncodeError: 'charmap' codec can't encode characters in position 0-44: character ma
```

To open a file and write UTF-8 characters to a file, you need to pass the `encoding='utf-8'` parameter to the `open()` function.

The following example shows how to write UTF-8 characters to a text file:

```
quote = '成功を収める人とは人が投げってきたレンガでしっかりした基盤を築くことができる人のことである。'

with open('quotes.txt', 'w', encoding='utf-8') as f:
    f.write(quote)
```

## Summary

- Use the `open()` function with the `w` or `a` mode to open a text file for appending.
- Always close the file after completing writing using the `close()` method or use the `with` statement when opening the file.
- Use `write()` and `writelines()` methods to write to a text file.
- Pass the `encoding='utf-8'` to the `open()` function to write UTF-8 characters into a file.