

# :mod:`filecmp` --- File and Directory Comparisons

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 1); [backlink](#)**

Unknown interpreted text role "mod".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 4)**

Unknown directive type "module".

```
.. module:: filecmp
   :synopsis: Compare files efficiently.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 7)**

Unknown directive type "sectionauthor".

```
.. sectionauthor:: Moshe Zadka <moshez@zadka.site.co.il>
```

Source code: :source:`Lib/filecmp.py`

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 9); [backlink](#)**

Unknown interpreted text role "source".

The :mod:`filecmp` module defines functions to compare files and directories, with various optional time/correctness trade-offs. For comparing files, see also the :mod:`difflib` module.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 13); [backlink](#)**

Unknown interpreted text role "mod".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 13); [backlink](#)**

Unknown interpreted text role "mod".

The :mod:`filecmp` module defines the following functions:

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 17); [backlink](#)**

Unknown interpreted text role "mod".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 20)**

Unknown directive type "function".

```
.. function:: cmp(f1, f2, shallow=True)

   Compare the files named *f1* and *f2*, returning ``True`` if they seem equal,
   ``False`` otherwise.

   If *shallow* is true and the :func:`os.stat` signatures (file type, size, and
   modification time) of both files are identical, the files are taken to be
   equal.

   Otherwise, the files are treated as different if their sizes or contents differ.
```

Note that no external programs are called from this function, giving it portability and efficiency.

This function uses a cache for past comparisons and the results, with cache entries invalidated if the `:func:'os.stat'` information for the file changes. The entire cache may be cleared using `:func:'clear_cache'`.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\cpython-main [Doc] [library]filecmp.rst, line 39)**

Unknown directive type "function".

```
.. function:: cmpfiles(dir1, dir2, common, shallow=True)
```

Compare the files in the two directories `*dir1*` and `*dir2*` whose names are given by `*common*`.

Returns three lists of file names: `*match*`, `*mismatch*`, `*errors*`. `*match*` contains the list of files that match, `*mismatch*` contains the names of those that don't, and `*errors*` lists the names of files which could not be compared. Files are listed in `*errors*` if they don't exist in one of the directories, the user lacks permission to read them or if the comparison could not be done for some other reason.

The `*shallow*` parameter has the same meaning and default value as for `:func:'filecmp.cmp'`.

For example, ```cmpfiles('a', 'b', ['c', 'd/e'])``` will compare ```a/c``` with ```b/c``` and ```a/d/e``` with ```b/d/e```. ```c``` and ```d/e``` will each be in one of the three returned lists.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\cpython-main [Doc] [library]filecmp.rst, line 59)**

Unknown directive type "function".

```
.. function:: clear_cache()
```

Clear the filecmp cache. This may be useful if a file is compared so quickly after it is modified that it is within the mtime resolution of the underlying filesystem.

```
.. versionadded:: 3.4
```

## The `:class:'diremp'` class

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\cpython-main [Doc] [library]filecmp.rst, line 70); [backlink](#)**

Unknown interpreted text role "class".

Construct a new directory comparison object, to compare the directories *a* and *b*. *ignore* is a list of names to ignore, and defaults to `attr:'filecmp.DEFAULT_IGNORES'`. *hide* is a list of names to hide, and defaults to `[os.curdir, os.pardir]`.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\cpython-main [Doc] [library]filecmp.rst, line 75); [backlink](#)**

Unknown interpreted text role "attr".

The `:class:'diremp'` class compares files by doing *shallow* comparisons as described for `:func:'filecmp.cmp'`.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\cpython-main [Doc] [library]filecmp.rst, line 80); [backlink](#)**

Unknown interpreted text role "class".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library] filecmp.rst, line 80); [backlink](#)**

Unknown interpreted text role "func".

The `:class:`dircmp`` class provides the following methods:

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library] filecmp.rst, line 83); [backlink](#)**

Unknown interpreted text role "class".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library] filecmp.rst, line 85)**

Unknown directive type "method".

```
.. method:: report()
```

Print (to `:data:`sys.stdout``) a comparison between `*a*` and `*b*`.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library] filecmp.rst, line 89)**

Unknown directive type "method".

```
.. method:: report_partial_closure()
```

Print a comparison between `*a*` and `*b*` and common immediate subdirectories.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library] filecmp.rst, line 94)**

Unknown directive type "method".

```
.. method:: report_full_closure()
```

Print a comparison between `*a*` and `*b*` and common subdirectories (recursively).

The `:class:`dircmp`` class offers a number of interesting attributes that may be used to get various bits of information about the directory trees being compared.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library] filecmp.rst, line 99); [backlink](#)**

Unknown interpreted text role "class".

Note that via `:meth:`__getattr__`` hooks, all attributes are computed lazily, so there is no speed penalty if only those attributes which are lightweight to compute are used.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library] filecmp.rst, line 103); [backlink](#)**

Unknown interpreted text role "meth".

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library] filecmp.rst, line 108)**

Unknown directive type "attribute".

```
.. attribute:: left
```

The directory `*a*`.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 113)**

Unknown directive type "attribute".

```
.. attribute:: right

    The directory *b*.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 118)**

Unknown directive type "attribute".

```
.. attribute:: left_list

    Files and subdirectories in *a*, filtered by *hide* and *ignore*.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 123)**

Unknown directive type "attribute".

```
.. attribute:: right_list

    Files and subdirectories in *b*, filtered by *hide* and *ignore*.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 128)**

Unknown directive type "attribute".

```
.. attribute:: common

    Files and subdirectories in both *a* and *b*.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 133)**

Unknown directive type "attribute".

```
.. attribute:: left_only

    Files and subdirectories only in *a*.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 138)**

Unknown directive type "attribute".

```
.. attribute:: right_only

    Files and subdirectories only in *b*.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 143)**

Unknown directive type "attribute".

```
.. attribute:: common_dirs

    Subdirectories in both *a* and *b*.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 148)**

Unknown directive type "attribute".

```
.. attribute:: common_files

Files in both *a* and *b*.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 153)**

Unknown directive type "attribute".

```
.. attribute:: common_funny

Names in both *a* and *b*, such that the type differs between the
directories, or names for which :func:`os.stat` reports an error.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 159)**

Unknown directive type "attribute".

```
.. attribute:: same_files

Files which are identical in both *a* and *b*, using the class's
file comparison operator.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 165)**

Unknown directive type "attribute".

```
.. attribute:: diff_files

Files which are in both *a* and *b*, whose contents differ according
to the class's file comparison operator.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 171)**

Unknown directive type "attribute".

```
.. attribute:: funny_files

Files which are in both *a* and *b*, but could not be compared.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 176)**

Unknown directive type "attribute".

```
.. attribute:: subdirs

A dictionary mapping names in :attr:`common_dirs` to :class:`dircmp`
instances (or MyDirCmp instances if this instance is of type MyDirCmp, a
subclass of :class:`dircmp`).

.. versionchanged:: 3.10
   Previously entries were always :class:`dircmp` instances. Now entries
   are the same type as *self*, if *self* is a subclass of
   :class:`dircmp`.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\library\[cpython-main] [Doc] [library]filecmp.rst, line 187)**

Unknown directive type "attribute".

```
.. attribute:: DEFAULT_IGNORES
```

```
.. versionadded:: 3.4
```

```
List of directories ignored by :class:`dircmp` by default.
```

Here is a simplified example of using the `subdirs` attribute to search recursively through two directories to show common different files:

```
>>> from filecmp import dircmp
>>> def print_diff_files(dcmp):
...     for name in dcmp.diff_files:
...         print("diff_file %s found in %s and %s" % (name, dcmp.left,
...             dcmp.right))
...     for sub_dcmp in dcmp.subdirs.values():
...         print_diff_files(sub_dcmp)
...
>>> dcmp = dircmp('dir1', 'dir2') # doctest: +SKIP
>>> print_diff_files(dcmp) # doctest: +SKIP
```