

# List Objects

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 1)**

Unknown directive type "highlight".

```
.. highlight:: c
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 8)**

Unknown directive type "index".

```
.. index:: object: list
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 11)**

Unknown directive type "c:type".

```
.. c:type:: PyListObject
```

This subtype of :c:type:`PyObject` represents a Python list object.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 16)**

Unknown directive type "c:var".

```
.. c:var:: PyTypeObject PyList_Type
```

This instance of :c:type:`PyTypeObject` represents the Python list type. This is the same object as :class:`list` in the Python layer.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 22)**

Unknown directive type "c:function".

```
.. c:function:: int PyList_Check(PyObject *p)
```

Return true if \*p\* is a list object or an instance of a subtype of the list type. This function always succeeds.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 28)**

Unknown directive type "c:function".

```
.. c:function:: int PyList_CheckExact(PyObject *p)
```

Return true if \*p\* is a list object, but not an instance of a subtype of the list type. This function always succeeds.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 34)**

Unknown directive type "c:function".

```
.. c:function:: PyObject* PyList_New(Py_ssize_t len)
```

Return a new list of length \*len\* on success, or ``NULL`` on failure.

```
.. note::
```

If `*len*` is greater than zero, the returned list object's items are set to ```NULL```. Thus you cannot use abstract API functions such as `:c:func:PySequence_SetItem` or expose the object to Python code before setting all items to a real object with `:c:func:PyList_SetItem`.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 46)**

Unknown directive type "c:function".

```
.. c:function:: Py_ssize_t PyList_Size(PyObject *list)

.. index:: builtin: len

Return the length of the list object in *list*; this is equivalent to
``len(list)`` on a list object.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 54)**

Unknown directive type "c:function".

```
.. c:function:: Py_ssize_t PyList_GET_SIZE(PyObject *list)

Macro form of :c:func:PyList_Size without error checking.
```

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

Unknown directive type "c:function".

```
.. c:function:: PyObject* PyList_GetItem(PyObject *list, Py_ssize_t index)

Return the object at position *index* in the list pointed to by *list*. The
position must be non-negative; indexing from the end of the list is not
supported. If *index* is out of bounds (<0 or >=len(list)),
return ``NULL`` and set an :exc:IndexError exception.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 67)**

Unknown directive type "c:function".

```
.. c:function:: PyObject* PyList_GET_ITEM(PyObject *list, Py_ssize_t i)

Macro form of :c:func:PyList_GetItem without error checking.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 72)**

Unknown directive type "c:function".

```
.. c:function:: int PyList_SetItem(PyObject *list, Py_ssize_t index, PyObject *item)

Set the item at index *index* in list to *item*. Return ``0`` on success.
If *index* is out of bounds, return ``-1`` and set an :exc:IndexError
exception.

.. note::

This function "steals" a reference to *item* and discards a reference to
an item already in the list at the affected position.
```

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 84)**

Unknown directive type "c:function".

```
.. c:function:: void PyList_SET_ITEM(PyObject *list, Py_ssize_t i, PyObject *o)
```

Macro form of `:c:func:`PyList_SetItem`` without error checking. This is normally only used to fill in new lists where there is no previous content.

.. note::

This macro "steals" a reference to `*item*`, and, unlike `:c:func:`PyList_SetItem``, does *not* discard a reference to any item that is being replaced; any reference in `*list*` at position `*i*` will be leaked.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 97)**

Unknown directive type "c:function".

```
.. c:function:: int PyList_Insert(PyObject *list, Py_ssize_t index, PyObject *item)
```

Insert the item `*item*` into list `*list*` in front of index `*index*`. Return ```0``` if successful; return ```-1``` and set an exception if unsuccessful. Analogous to ```list.insert(index, item)```.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 104)**

Unknown directive type "c:function".

```
.. c:function:: int PyList_Append(PyObject *list, PyObject *item)
```

Append the object `*item*` at the end of list `*list*`. Return ```0``` if successful; return ```-1``` and set an exception if unsuccessful. Analogous to ```list.append(item)```.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-main\Doc\c-api\[cpython-main] [Doc] [c-api]list.rst, line 111)**

Unknown directive type "c:function".

```
.. c:function:: PyObject* PyList_GetSlice(PyObject *list, Py_ssize_t low, Py_ssize_t high)
```

Return a list of the objects in `*list*` containing the objects *between* `*low*` and `*high*`. Return ```NULL``` and set an exception if unsuccessful. Analogous to ```list[low:high]```. Indexing from the end of the list is not supported.

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

Unknown directive type "c:function".

```
.. c:function:: int PyList_SetSlice(PyObject *list, Py_ssize_t low, Py_ssize_t high, PyObject *itemlist)
```

Set the slice of `*list*` between `*low*` and `*high*` to the contents of `*itemlist*`. Analogous to ```list[low:high] = itemlist```. The `*itemlist*` may be ```NULL```, indicating the assignment of an empty list (slice deletion). Return ```0``` on success, ```-1``` on failure. Indexing from the end of the list is not supported.

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Unknown directive type "c:function".

```
.. c:function:: int PyList_Sort(PyObject *list)
```

Sort the items of `*list*` in place. Return ```0``` on success, ```-1``` on failure. This is equivalent to ```list.sort()```.

**System Message: ERROR/3 (D:\onboarding-resources\sample-onboarding-resources\cpython-**

main\Doc\c-api\cpython-main] [Doc] [c-api]list.rst, line 133)

Unknown directive type "c:function".

```
.. c:function:: int PyList_Reverse(PyObject *list)
```

Reverse the items of \*list\* in place. Return ``0`` on success, ``-1`` on failure. This is the equivalent of ``list.reverse()``.

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Unknown directive type "c:function".

```
.. c:function:: PyObject* PyList_AsTuple(PyObject *list)
```

```
.. index:: builtin: tuple
```

Return a new tuple object containing the contents of \*list\*; equivalent to ``tuple(list)``.