Function Objects

There are a few functions specific to Python functions.

`PyFunctionObject`

The C structure used for functions.

PyTypeObject **`PyFunction_Type`**

This is an instance of `PyTypeObject` and represents the Python function type. It is exposed to Python programmers as `types.FunctionType`.

int **`PyFunction_Check`**(PyObject **o*)

Return true if *o* is a function object (has type `PyFunction_Type`). The parameter must not be *NULL*.

PyObject* **`PyFunction_New`**(PyObject **code*, PyObject **globals*)

Return value: New reference.

Return a new function object associated with the code object *code*. *globals* must be a dictionary with the global variables accessible to the function.

The function's docstring and name are retrieved from the code object. *__module__* is retrieved from *globals*. The argument defaults, annotations and closure are set to *NULL*. *__qualname__* is set to the same value as the function's name.

PyObject* **`PyFunction_NewWithQualName`**(PyObject **code*, PyObject **globals*, PyObject **qualname*)

Return value: New reference.

As `PyFunction_New()`, but also allows setting the function object's `__qualname__` attribute. *qualname* should be a unicode object or NULL; if NULL, the `__qualname__` attribute is set to the same value as its `__name__` attribute.

New in version 3.3.

PyObject* **`PyFunction_GetCode`**(PyObject **op*)

Return value: Borrowed reference.

Return the code object associated with the function object *op*.

PyObject* **`PyFunction_GetGlobals`**(PyObject **op*)

Return value: Borrowed reference.

Return the globals dictionary associated with the function object *op*.

PyObject* **`PyFunction_GetModule`**(PyObject **op*)

Return value: Borrowed reference.

Return the *__module__* attribute of the function object *op*. This is normally a string containing the module name, but can be set to any other object by Python code.

PyObject* **`PyFunction_GetDefaults`**(PyObject **op*)

Return value: Borrowed reference.

Return the argument default values of the function object *op*. This can be a tuple of arguments or *NULL*.

int **`PyFunction_SetDefaults`**(PyObject **op*, PyObject **defaults*)

Set the argument default values for the function object *op*. *defaults* must be *Py_None* or a tuple.

Raises `SystemError` and returns `-1` on failure.

PyObject* **`PyFunction_GetClosure`**(PyObject **op*)

Return value: Borrowed reference.

Return the closure associated with the function object *op*. This can be *NULL* or a tuple of cell objects.

int **`PyFunction_SetClosure`**(PyObject **op*, PyObject **closure*)

Set the closure associated with the function object *op*. *closure* must be *Py_None* or a tuple of cell objects.

Raises `SystemError` and returns `-1` on failure.

PyObject ***`PyFunction_GetAnnotations`**(PyObject **op*)

Return the annotations of the function object *op*. This can be a mutable dictionary or *NULL*.

int **`PyFunction_SetAnnotations`**(PyObject **op*, PyObject **annotations*)

Set the annotations for the function object *op*. *annotations* must be a dictionary or *Py_None*.

Raises `SystemError` and returns `-1` on failure.