

# Python dir()

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The syntax of `dir()` is:

```
dir([object])
```

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## dir() Parameters

`dir()` takes maximum of one object.

- **object** (optional) - `dir()` attempts to return all attributes of this object.

## Return Value from dir()

`dir()` tries to return a list of valid attributes of the object.

- If the object has `__dir__()` method, the method will be called and must return the list of attributes.

- If the object doesn't have `__dir__()` method, this method tries to find information from the `__dict__` attribute (if defined), and from type object. In this case, the list returned from `dir()` may not be complete.

If an object is not passed to `dir()` method, it returns the list of names in the current local scope.

## Example 1: How `dir()` works?

```
number = [1, 2, 3]
```

```
print(dir(number))
```

```
print('\nReturn Value from empty dir()')
```

```
print(dir())
```

## Output

```
['__add__', '__class__', '__contains__', '__delattr__',  
'__delitem__', '__dir__', '__doc__', '__eq__', '__f'  
'__ge__', '__getattribute__', '__getitem__', '__gt_  
'__iadd__', '__imul__', '__init__', '__init_subclas  
'__iter__', '__le__', '__len__', '__lt__', '__mul_  
'__new__', '__reduce__', '__reduce_ex__', '__repr_  
'__rmul__', '__setattr__', '__setitem__', '__sizeof'  
'__subclasshook__', 'append', 'clear', 'copy', 'cou  
'index', 'insert', 'pop', 'remove', 'reverse', 'sor
```

```
Return Value from empty dir()
['__annotations__', '__builtins__', '__doc__', '__name__', '__package__', '__spec__', 'number']
```

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## Example 2: dir() on User-defined Object

```
class Person:
    def __dir__(self):
        return ['age', 'name', 'salary']
```

```
teacher = Person()
print(dir(teacher))
```

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### Output

```
['age', 'name', 'salary']
```

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