

### 3 Callables

#### Calls

Mock objects are callable allowing them to replace callable objects with a fake implementation. Mocks accept any number of arguments and can return a value when called.

```
1 import random
2 from unittest.mock import Mock
3
4 ##### Callables #####
5 fake_object = Mock()
6
7 # Mocks can be called with any arguments.
8 fake_object('a', 'b', z=True)
9 fake_object(1, 2)
10 fake_object()
11
12 # Mocks dynamically create attributes and methods when accessed
13 fake_object.fake_method()
14 fake_object.fake_method(1, 2, 3, 4)
15 fake_object.fake_method(z=True, x=False)
16
17 fake_object.fake_attribute.fake_method()
18 ##### Return Values #####
19 #
20 # Mock objects can return predefined values.
21 #
22 ## Keyword Argument
23 #
24 # The return_value argument specifies the value to return when
25 calc_pi = Mock(return_value=3.14159)
26
27 # Calls will now return the specified value.
28 assert calc_pi() == 3.14159
```

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```
26
27 # Calls will now return the specified value.
28 assert calc_pi() == 3.14159
29
30 ## Attribute
31 #
32 # The return_value attribute can be set after the mock is created.
33 calc_pi = Mock()
34
35 calc_pi.return_value = 3.14159
36
37 # Calls will now return the specified value.
38 assert calc_pi() == 3.14159
39
40 ## Method Return Values
41 #
42 mock = Mock()
43
44 # The return_value attribute can be set on the mock method.
45 mock.fake_attribute.fake_method.return_value = 'method to the madn
46
47 # Calls will now return the specified value.
48 assert mock.fake_attribute.fake_method() == 'method to the madn
49 #####
50 print('No assertion errors')
51
```

#### Instructions

1. Arrange the **playground.py** file to match the code above.
2. Run **playground.py** in the IDE's terminal pane.

```
1 python3 cloudacademy/playground.py
```

No assertion errors

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