Objects And Classes - II- Hiding Instance Variables

This notebook demonstrates that using the single '_' to prefix does not actually restrict access to the variables. As stated in the earlier notebook, this is a mechanism just used to signal to other users of the class that direct access of these variables is not recommended.

In the following cell, I have rewritten the Rectangle class by changing the variable names to be prefixed by a single underscore character. I have therefore also changed the name of the class to `Rectangle_NotHidden`.

In [1]:

```
class Rectangle_NotHidden:
    def __init__(self, l, w):
        self._length = l
        self._width = w

    def get_length(self):
        return self._length

    def get_width(self):
        return self._width

    def set_length(self, l):
        self._length = l

    def set_width(self, w):
        self._width = w

    def __str__(self):
        return 'length = ' + str(self._length) + '; width = ' + str(self._width)

    def compute_area(self):
        return self._width * self._length
```

In the following example we will again create an object of the `Rectangle_NotHidden` class. Then we will print out the values of the variables directly, demonstrating that this can be easily done because, the single underscore is just a naming convention.

In [2]:

```
'''
In this example we will again create an object of the Rectangle_NotHidden class.
Then we will print out the values of the variables directly, demonstrating that this can be easily
done because,
the single underscore is just a naming convention.
'''

r1 = Rectangle_NotHidden(4, 8)
print('Length is', r1._length)
print('Width is', r1._width)
print(dir(r1))
```

```
Length is 4
Width is 8
['__class__', '__delattr__', '__dict__', '__dir__', '__doc__', '__eq__', '__format__', '__ge__', '
__getattribute__', '__gt__', '__hash__', '__init__', '__init_subclass__', '__le__', '__lt__', '__m
odule__', '__ne__', '__new__', '__reduce__', '__reduce_ex__', '__repr__', '__setattr__',
'__sizeof__', '__str__', '__subclasshook__', '__weakref__', '_length', '_width', 'compute_area', '
get_length', 'get_width', 'set_length', 'set_width']
```