

COMP 110

Fall 2021 - Section 002 - In-Person - 11:00am

Class 18 - Dictionary Practice

```
1  """Example of a Point class."""
2
3
4  class Point:
5      x: float
6      y: float
7
8      def __init__(self, x: float, y: float):
9          """Initialize a Point with its x, y components."""
10         self.x = x
11         self.y = y
12
13     def scale_by(self, factor: float) -> None:
14         """Mutates: multiplies components by factor."""
15         self.x *= factor
16         self.y *= factor
17
18
19  p0: Point = Point(1.0, 2.0)
20  p0.scale_by(2.0)
```

Diagram 1

Produce an environment diagram of the code listing left.

```
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19  p0: Point = Point(1.0, 2.0)
20  p0.scale_by(2.0)
```

Diagram 2

Produce an environment diagram of the code listing left.

```
1 class Dog:
2     name: str
3
4     def __init__(self, name: str):
5         self.name = name
6
7     def speak(self) -> str:
8         return f"{self.name}: woof"
9
10
11 class Cat:
12     name: str
13
14     def __init__(self, name: str):
15         self.name = name
16
17     def speak(self) -> str:
18         return f"{self.name}: meow"
19
20
21 fido: Cat = Cat("Cleo")
22 leo: Dog = Dog("Loki")
23
24 print(fido.speak())
25 print(leo.speak())
```

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2     name: str
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4     def __init__(self, name: str):
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7     def speak(self) -> str:
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