Topic 60 - Classes: Coding a Method

**What**

* A method is a function defined inside a class, which automatically has access to all the attributes of any instance of that class.
* Methods use self to refer to the instance and access its attributes, eliminating the need to pass them as arguments.

**Why**

* **Automatic Access to Attributes**: Using methods, instance attributes are readily available without passing them explicitly, streamlining code.
* **Instance-Specific Actions**: Methods allow each instance to act on its own data, enabling meaningful and varied behavior for different instances.

**How**

1. **Define a Method Inside a Class**  
   To define a method, use the def keyword within the class definition and ensure the method is indented within the class body:

python

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class Patient:

def \_\_init\_\_(self, last\_name, first\_name, age):

self.last\_name = last\_name

self.first\_name = first\_name

self.age = age

# Method to check if patient is a minor

def say\_if\_minor(self):

if self.age < 21:

print(self.first\_name + " " + self.last\_name + " is a minor")

* + **Method Syntax**: The say\_if\_minor method checks if age is less than 21 and prints a message if the patient is a minor.
  + **Using self**: self allows the method to refer to specific instance attributes (first\_name, last\_name, and age) automatically.

1. **Call a Method on an Instance**  
   Once the method is defined, you can call it on any instance of the class. The method will operate using that instance's specific data:

python

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pid4343 = Patient("Taleb", "Sue", 61)

pid4343.say\_if\_minor() # Output: No output, as Sue is not a minor

pid1234 = Patient("Doe", "John", 19)

pid1234.say\_if\_minor() # Output: "John Doe is a minor"

* + **Calling the Method**: Instead of passing attributes, you simply call the method on an instance like pid4343.say\_if\_minor(), which accesses the instance’s attributes directly.

**Things to Remember**

* **Indentation Matters**: Ensure methods are indented at the same level as \_\_init\_\_ within the class, and the method body is further indented for clarity.
* **Use self**: Always include self as the first parameter in any method definition. It enables the method to access the instance’s specific attributes.
* **Automatic Access**: self.attribute\_name accesses the attribute value for the particular instance without needing extra arguments.