**Exercise: Learning from Object Oriented Programming Code**

Biopython SeqRecord Class Analysis: Answer by hand except where it says **copy/paste**

Part I: Imported modules

1. Describe the purpose of the typing module:
2. **Copy/paste** a code snippet example of the use of the typing module in the code. (Check out the \_\_init\_\_ ):

Explain what this code does:

1. Describe the purpose of the doctest module:
2. **Copy/paste** an example of a doctest in the code:

Explain what this code does:

Where are the doctests executed?

Part II: Identify parts of the code using OOP Terms:

1. What kind of Class is SeqRecord? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. On what line does the SeqRecod start and what is it called?

LINE NUMBER: NAME OF METHOD:

1. What data types are the following attributes (write next to the names):
   1. Id ->
   2. Name ->
   3. Features ->
2. Find an example of an instance of the class in one of the docstrings. (\_\_getitem\_\_ has one) and **copy/paste** it here:
3. What attributes are assigned values when this instance is created? Write them here:
4. What ones are not assigned? Write them here:
5. What is @property and @overload?

Part III: Investigate some methods

1. How would you describe the \_\_str\_\_ method in OOP terminology?
2. What would the following output be based on the \_\_str\_\_ function?

>>> record = SeqRecord(Seq("SNACKATTACK"), id="CHPS\_1001", name=" BBQ5", description="fried junk food")

>>> print(record)

Write answer here:

1. What built-in functions or operators do the following effect? Write the answer next to the method:
   1. \_\_len\_\_
   2. \_\_lt\_\_
   3. \_\_eq\_\_
   4. \_\_ne\_\_
   5. \_\_add\_\_
2. Name three methods that do not affect built-in methods or operators and explain what they do:
3. What is the purpose of if \_\_name\_\_ == ‘\_\_main\_\_”:
4. Will this code run if you import SeqRecord? Explain your answer: