Q1. Does assigning a value to a string's indexed character violate Python's string immutability?

Ans : yes

Q2. Does using the += operator to concatenate strings violate Python's string immutability? Why or why not?

Ans : In python, the string data types are immutable. Which means a string value cannot be updated. We can verify this by trying to update a part of the string which will led us to an error. We can further verify this by checking the memory location address of the position of the letters of the string.

Q3. In Python, how many different ways are there to index a character?

Ans : Each of a string's characters corresponds to an index number and each character can be accessed using their index number. We can access characters in a String in Two ways : Accessing Characters by Positive Index Number. Accessing Characters by Negative Index Number.

Q4. What is the relationship between indexing and slicing?

Ans :

“Indexing” means referring to an element of an iterable by its position within the iterable. “Slicing” means getting a subset of elements from an iterable based on their indices.

Q5. What is an indexed character's exact data type? What is the data form of a slicing-generated substring?

Ans :

Q6. What is the relationship between string and character "types" in Python?

Ans : In Python, Strings are arrays of bytes representing Unicode characters. However, Python does not have a character data type, a single character is simply a string with a length of 1. Square brackets can be used to access elements of the string.

Q7. Identify at least two operators and one method that allow you to combine one or more smaller strings to create a larger string.

Ans : The most common among them is using the plus (“+”) operator. You can combine both string variables and string literals using the “+” operator. However, there's another method that allows an easy way of concatenating multiple strings. It is using the in-place (+=) operator.

Q8. What is the benefit of first checking the target string with in or not in before using the index method to find a substring?

Ans : else we will get some exception for the same.

Q9. Which operators and built-in string methods produce simple Boolean (true/false) results?

Ans : The logical operators and, or and not are also referred to as boolean operators. While and as well as or operator needs two operands, which may evaluate to true or false, not operator needs one operand evaluating to true or false.