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

Ans: In python, the string data types are immutable. Which means a string value cannot be updated.Yes, assigning a value to a string's indexed character violate Python's string immutability

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

Ans:

s = “Hello”

s += “ World”

Then the output will be stored in s. But if we check the address before and after operation are different. So it is not updating the earlier string. So it’s not violating strings immutability.

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

Ans: Indexing in Python means referring to an element of an iterable by its position within the iterable. Each character can be accessed using their index number. To access characters in a string we have two ways:Positive index number**,**Negative index number

Q4. What is the relationship between indexing and slicing?

Ans:

Indexing in Python means referring to an element of an iterable by its position within the iterable. Each character can be accessed using their index number. To access characters in a string we have two ways:Positive index number**,**Negative index number.

Slicing in python is used for accessing parts of a sequence. The slice object is used to slice a given sequence or any object. We use slicing when we require a part of a string and not the complete string.

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

Ans: Indexed character's exact data type is **str.** The data form of a slicing-generated substring is **str**

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. In Python, individual characters of a String can be accessed by using the method of Indexing.

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: Using the + operator , the * operator , the join() method , % operator, format() function , Using the f-string

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: We can handle substring not found, if substring is not available in string and we can also get to know whether the string is actual exists or its is a part of other word

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

Ans: isalnum() **,** isalpha() **,** isdigit() **,** islower() **,** isnumeric() **,** isspace() **,** istitle() **,** isupper() **,** isdecimal()