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

Yes, due to the immutability it will not allow to assign the values.

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

IT will not violating the string immutability as its concatenating the string and reassigning the same.

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

We can access the index character by positive indexing and with the negative indexing.

Q4. What is the relationship between indexing and slicing?

Indexing means accessing the single elements from the string by giving the index.

With slicing we can access the range of the index like by mentioning the starting index and the end index.

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

Both generated elements data type will be a str that is string.

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

Type is a metaclass of string.

When we do the type(str) then we will get an output as type.

Which means with the help of type class the string class has formed

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

With the helps of + and = we can create a large string from small string.

With the help of join method we can combine the smaller 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?

By checking the string is present or not we can get the index no and from that we can extract the required substring with the help of start and end index.

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

Isalpha

Isnumeric

Isdecimal

Islower

Isascii

Istitle

isUpper

etc..

Operator:

<,>,==