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

Yes, assigning value to the strings indexed character violate python string immutability, and it will give error if you try to do so.

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

No, it does note as concatenating string using += will create a new string with same name instead of modifying original one.

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

We can index a character by using square brackets “[]” or we can use for loop with enumerate function to index characters.

Q4. What is the relationship between indexing and slicing?

In both indexing and slicing we use square brackets but in indexing we get only one character wwhile in slicing we can get a string. In slicing we use start index , colon and end index upto which we want to slice .

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

Both indexed character and sliced string has data type “str”

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

Character are building blocks of the string. Group of characters make a string. Strings are immutable objects where as characters are single entity.

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

‘+’ and += operators that can combine multiple different strings and concat() method and join() method are methods that can combine multiple different strings.

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?

In order to prevent value-errors it is beneficial to check the target string with in or not in before using the index method to find a substring

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

Following are the operators and built-in string methods produce simple Boolean (true/false) results:

Operators - = = and !=

Built – in methods – issubstring, startswith, endswith, isalnum etc.