002-python-strings

Q1. How can we store a single quote (') as a string in a variable?

Q2. Refer the below variable:
x = 'a'
Here, is x a character type or string type variable? Support your answer with an explanation.

Q3. Apply the following functions on this variable: 'Welcome to Python foundation course'
1. **find()**
2. **count()**
3. **len()**
4. **Concatenation**

Note: You can use your choice of parameters. But make sure it is correct.

Q4. For the variable: word = 'PanaJi@12256'
Calculate the following:
- **(a) Total number of alphabets in lowercase**
- **(b) Total number of alphabets in uppercase**
- **(c) Total number of numerical in string**

Q5. Write a code to store a numerical value inside a variable then convert it into string.

Q1. To store a single quote (') as a string in a variable, we can enclose it in double quotes (""") or use the escape character (').

Example:

my_string = "'Hello'"
or

bash
Copy code
my_string = '\'Hello\"

Q2. Without knowing the programming language, we cannot determine if x is a character type or string type variable. However, in many programming languages, a character type variable can only hold a single character, while a string type variable can hold multiple characters. If x holds more than one character, it is likely a string type variable.

Q3.

my_string = 'Welcome to Python foundation course'

```
# find the index of a substring
print(my_string.find('Python')) # Output: 11

# count the number of occurrences of a substring
print(my_string.count('o')) # Output: 4

# get the length of the string
print(len(my_string)) # Output: 32

# concatenate two strings
new_string = 'Hello, ' + my_string
print(new_string) # Output: 'Hello, Welcome to Python foundation course'
```
Q4.

```
word = 'PanaJi@12256'

# count the number of lowercase alphabets
print(sum(1 for c in word if c.islower())) # Output: 4

# count the number of uppercase alphabets
print(sum(1 for c in word if c.isupper())) # Output: 2

# count the number of numerical characters
print(sum(1 for c in word if c.isdigit())) # Output: 5
```
Q5.

```
num = 42
num_str = str(num)
print(num_str) # Output: '42'
```