Python String

Concatenation:

```
str1 = "Hello"
str2 = "World"
result = str1 + " " + str2          # Concatenating two strings with a space in between
print(result)                       # Output: "Hello World"
```

String Length:

```
text = "Python"
length = len(text)                  # Getting the length of the string
print(length)                       # Output: 6
```

Accessing Characters:

```
text = "Python"
print(text[0])                      # Accessing the first character 'P'
print(text[-1])                     # Accessing the last character 'n'
```

Slicing a String:

```
text = "Python"
print(text[1:4])                    # Slicing from index 1 to 3 ('yth')
```

String Conversion:

```
num = 42
text = str(num)                     # Converting a number to a string
```

String Formatting:

```
name = "Alice"
age = 25
message = "My name is {} and I'm {} years old.".format(name, age)
print(message)                      # Output: "My name is Alice and I'm 25 years old."
```

Upper and Lower Case:

```
text = "Python"
```

```
print(text.upper())                # Converting to uppercase: "PYTHON"
print(text.lower())                # Converting to lowercase: "python"
```

String Replacement:

```
text = "Hello, World!"
new_text = text.replace("World", "Python")
print(new_text)                    # Output: "Hello, Python!"
```

String Splitting:

```
text = "Hello, World!"
words = text.split(", ")
print(words)                       # Output: ['Hello', 'World!']
```

String Joining:

```
words = ['Hello', 'World!']
text = ", ".join(words)
print(text)                        # Output: "Hello, World!"
```

Removing Whitespace:

```
text = "   Python   "
print(text.strip())                # Removing leading and trailing whitespace: "Python"
```

Checking if a String starts/ends with a specific substring:

```
text = "Hello, World!"
print(text.startswith("Hello"))    # Checking if the string starts with "Hello" (True)
print(text.endswith("!"))          # Checking if the string ends with "!" (True)
```

Checking if a String is Numeric/Alphabetic:

```
num = "123"
alphabets = "abc"
print(num.isnumeric())             # Checking if the string contains only numeric characters (True)
print(alphabets.isalpha())         # Checking if the string contains only alphabetic characters
(True)
```

String Reversal:

```
text = "Python"
```

```
reversed_text = text[::-1]
print(reversed_text)              # Output: "nohtyP"
```

String Formatting with f-strings (Python 3.6+):

```
name = "Alice"
age = 25
message = f"My name is {name} and I'm {age} years old."
print(message)                    # Output: "My name is Alice and I'm 25 years old."
```

Counting Occurrences of a Substring:

```
text = "Hello, World!"
count = text.count("o")
print(count)                      # Output: 2
```

Checking if a Substring is in a String:

```
text = "Hello, World!"
exists = "World" in text
print(exists)                     # Output: True
```

Capitalizing the First Letter of a String:

```
text = "hello, world!"
capitalized_text = text.capitalize()
print(capitalized_text)           # Output: "Hello, world!"
```

Checking if a String is Titlecased:

```
text = "This Is Titlecased"
print(text.istitle())             # Checking if the string is titlecased (True)
```

Extracting Digits/Letters from a String:

```
text = "P7y8t9h6o4n"
digits = ''.join(filter(str.isdigit, text))
letters = ''.join(filter(str.isalpha, text))
print(digits)                     # Output: "78964"
print(letters)                    # Output: "Python"
```

Checking if a String is Empty:

```
text = ""
is_empty = len(text) == 0
print(is_empty)                    # Output: True
```

Finding the Index of a Substring:

```
text = "Hello, World!"
index = text.index("World")
print(index)                       # Output: 7
```

Checking if a String is a Valid Identifier:

```
identifier = "my_variable"
is_valid = identifier.isidentifier()
print(is_valid)                    # Output: True
```

Checking if a String is in Titlecase:

```
text = "This Is Titlecase"
print(text.istitle())              # Checking if the string is in titlecase (True)
```

Removing a Substring:

```
text = "Hello, World!"
new_text = text.replace("Hello, ", "")
print(new_text)                    # Output: "World!"
```

Checking if a String Contains Only Whitespace Characters:

```
text = "     "
is_whitespace = text.isspace()
print(is_whitespace)               # Output: True
```

Checking if a String is Alphanumeric:

```
text = "Hello123"
is_alphanumeric = text.isalnum()
print(is_alphanumeric)             # Output: True
```

Checking if a String is in Uppercase or Lowercase:

```
text = "PYTHON"
is_uppercase = text.isupper()
print(is_uppercase)                 # Output: True

text = "python"
is_lowercase = text.islower()
print(is_lowercase)                 # Output: True
```

Splitting a String into Lines:

```
text = "Hello\nWorld\nPython"
lines = text.splitlines()
print(lines)                        # Output: ['Hello', 'World', 'Python']
```

Checking if a String Contains Only Printable Characters:

```
text = "Hello, World!"
is_printable = text.isprintable()
print(is_printable)                 # Output: True
```