**Assignment: Strings Manipulation**

**Part 1: Basic String Operations**

1. **Task: Concatenation**
   * Create two string variables, **first\_name** and **last\_name**, containing your first name and last name.
   * Concatenate them to form a full name.
   * Print the full name.
2. **Task: String Slicing**
   * Take a user input string.
   * Print the first three characters.
   * Print the last three characters.

**Part 2: String Methods**

1. **Task: String Methods**
   * Create a string with extra spaces at the beginning and end.
   * Remove the extra spaces using a string method.
   * Convert the string to lowercase.
   * Print the modified string.
2. **Task: String Replacement**
   * Create a sentence containing the word "dog".
   * Replace "dog" with "cat" in the sentence.
   * Print the modified sentence.

**Part 3: String Formatting**

1. **Task: String Formatting**
   * Take user input for their name and age.
   * Print a message using string formatting: "Hello, [Name]! You are [Age] years old."
2. **Task: F-strings**
   * Rewrite the message from Task 5 using f-strings.

**Part 4: String Searching** : **Task: String Searching**

* + Take a sentence as input.
  + Check if the word "Python" is present in the sentence.
  + Print "Python found!" if it is, otherwise print "Python not found."

first\_name = "John"

last\_name = "Doe"

full\_name = first\_name + " " + last\_name

print(full\_name)

1. user\_input = input("Enter a string: ")

print("First three characters:", user\_input[:3])

print("Last three characters:", user\_input[-3:])

PART 2

input\_string = " Hello, World! "

modified\_string = input\_string.strip().lower()

print(modified\_string)

sentence = "The dog is brown."

modified\_sentence = sentence.replace("dog", "cat")

print(modified\_sentence)

**Part 3: String Formatting**

name = input("Enter your name: ")

age = input("Enter your age: ")

print("Hello, " + name + "! You are " + age + " years old.")

name = input("Enter your name: ")

age = input("Enter your age: ")

print(f"Hello, {name}! You are {age} years old.")

**Part 4: String Searching**

sentence = input("Enter a sentence: ")

if "Python" in sentence:

print("Python found!")

else:

print("Python not found.")

**Assignment: Lists and Tuples Manipulations**

***Question 1:*** *Lists Operations*

a) Create a list named **numbers** containing the numbers 1 to 5.

b) Add the number 6 to the end of the list.

c) Insert the number 0 at the beginning of the list.

d) Remove the number 3 from the list.

**Question 2:** List Operations

a) Create a list named **fruits** containing the following items: **"apple"**, **"banana"**, **"orange"**, **"grape"**, **"kiwi"**.

b) Access and print the third item of the list.

c) Create another list named **colors** containing the following items: **"red"**, **"green"**, **"blue"**, **"yellow"**, **"purple"**.

d) Concatenate the **fruits** and **colors** tuples into a new list named **combined**.

**Question 3:** List and Tuple Comparison

a) Create a list named **list\_numbers** containing the numbers 1 to 5.

b) Create a tuple named **tuple\_numbers** containing the same numbers.

c) Check if the number 4 is in both **list\_numbers** and **tuple\_numbers**. Print the result.