day 4 today i learn basic of string in python

1. String Manipulation: Write a Python program that reverses a given string. Given a string, write a function to count the number of vowels in it. Write a program to check if a string is a palindrome. Implement a function to capitalize the rst letter of each word in a sentence

String Formatting: Create a formatted string using f-strings that includes variables and their values. Write a program to left-align a list of strings with a speci ed width. Given a list of names, format them into a bulleted list using string concatenation or join method

```
name = "Alice"
age = 30
city = "New York"
formatted_string = f"Name: {name}, Age: {age}, City: {city}"
print(formatted_string)
strings ="apple\tbanana\tcherry\t date"
Y=strings.expandtabs(8)
names = ["Alice", "Bob", "Charlie", "Diana"]
bulleted_list = "\n".join(f"* {name}" for name in names)
print(bulleted_list)
Name: Alice, Age: 30, City: New York
     apple banana cherry date
      k Alice
     * Bob
     * Charlie
     * Diana
Double-click (or enter) to edit
s = " Hello, World!
cleaned_string = s.strip()
print("String without leading and trailing whitespaces:", cleaned_string)

→ String without leading and trailing whitespaces: Hello, World!
```

```
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                                                                                day 4.ipynb - Colab
    main_string = "Hello, welcome to the world of Python."
    substring = "welcome"
    index = main_string.find(substring)
    print(f"The first occurrence of '{substring}' is at index {index}")
    paragraph = "This is a test. This test is only a test."
    word = "test"
    words = paragraph.split()
    count = words.count(word)
    print(f"The word '{word}' occurs {count} times in the paragraph.")
    sentence = "This is an example sentence with several words."
    words = sentence.split()
    last_three_words = ' '.join(words[-3:])
    print("Last three words:", last_three_words)
    → The first occurrence of 'welcome' is at index 7
         The word 'test' occurs 1 times in the paragraph.
         Last three words: with several words.
    string1 = "Hello"
    string2 = "World"
    concatenated_string = string1 + " " + string2
    print("Concatenated string:", concatenated_string)
    s = " Hello, World!
    cleaned_string = s.strip()
    print("String without leading and trailing whitespaces:", cleaned_string)
    text = "Please contact us at support@example.com or sales@example.co.uk for more information."
    email_pattern = r'[a-zA-Z0-9._%+-]+@[a-zA-Z0-9.-]+\\.[a-zA-Z]{2,}'
    emails = re.findall(email_pattern, text)
    print("Extracted emails:", emails)

→ Concatenated string: Hello World

         String without leading and trailing whitespaces: Hello, World!
         Extracted emails: ['support@example.com', 'sales@example.co.uk']
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    Given a string containing a sentence, use a string method to convert the entire string to uppercase.
    string="komal"
    print(string.upper())
    → KOMAL
```

You have a string with extra spaces at the beginning and end. Use a string method to remove these extra spaces

```
string=" komal
print("before", string)
s=string.strip()
print(s)
→ before
              komal
```

komal

You have a string with words separated by commas. Use a string method to split the string into a list of words.

```
string="k,o,m,a,l"
y=string.split()
print(y)

    ['k,o,m,a,l']
```

Given a string containing a sentence, replace all occurrences of the word "Java" with "Python".

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```
string = "java is bad language or"
subword = "java"
replace = "python"

# Find the index of the first occurrence of the subword
y = string.find(subword)

# Replace the subword with the new word
if y != -1:
    # Create a new string with the replacement
    string = string[:y] + replace + string[y + len(subword):]

print(string)

>> python is bad language or

# This is formatted as code

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Double-click (or enter) to edit
```