

التعامل مع النصوص

أنواع البيانات النصية في بايثون

- النصوص:

```
s1 = "this is a string"
s2 = 'this is a string'
s3 = str('this is a string')
```

التعامل مع علامات الاقتباس داخل النصوص:

```
s1 = "He said that \"I am from Egypt\""
s2 = """ He said that "I am from Egypt" """
s3 = ''' He said that I am from Egypt '''
```

خصائص النصوص

استخدام المؤشر:

```
s1 = "Hello"
print(s1[0]) # Output: H
```

العمليات على النصوص

- الدمج والتكرار:

```
s1 = "Hello"
s2 = "World"
print(s1 + s2) # Output: HelloWorld
print(s1 * 3) # Output: HelloHelloHello
```

دوال النصوص

- دوال تحويل وقياس النصوص:

```
print(ord('A')) # Output: 65
print(chr(95))  # Output: _
print(len("Hello")) # Output: 5
```

دوال البحث:

```
s = "Midocean University"
print(s.find("ean"))
```

الاستبدال

```
s = "Midocean University"
print(s.replace("U", "u"))
```

تقسيم النصوص

- التقطيع باستخدام المؤشرات:

```
S = "Hello ESU"
print(S[1])      # Output: e
print(S[-1])     # Output: U
print(S[:3])     # Output: Hel
print(S[3:])     # Output: lo ESU
```

الحلقات والشروط مع النصوص

- التكرار على النصوص:

```
s = "Hello"
length = len(s)
while length > 0:
    print(s[length - 1])
    length -= 1
```

عد الحروف والأرقام في النص:

```
s = input("Input a string")
dig = lett = 0
for chr in s:
    if chr.isdigit():
        dig += 1
    elif chr.isalpha():
        lett += 1
print("Letters", lett)
print("Digits", dig)
```

تنسيق النصوص

- تنسيق النصوص باستخدام التعييرات:

```
age = 35
print("My age is %d" % age) # Output: My age is 35
```

تنسيق النصوص باستخدام f:

```
name = "ESU"
year = 2020
print(f"The {name} university has been established since {year}")
```

أمثلة إضافية

- برنامج يكرر النص بعدد طوله:

```
s = input("Enter a string: ")
print(s * len(s))
```

برنامج لحساب الحروف المتحركة والصامتة في النص:

```
s = input("Enter a string: ")
vowels = 'aeiouAEIOU'
v_count = 0
c_count = 0
for char in s:
    if char.isalpha():
        if char in vowels:
            v_count += 1
        else:
            c_count += 1
print("Vowels:", v_count)
print("Consonants:", c_count)
```

برنامج لإزالة التكرارات من النص:

```
s = input("Enter a string: ")
result = ""
for char in s:
    if char not in result:
        result += char
print("String after removing duplicates:", result)
```

تمارين

1. Reverse a String

Ask the user to enter a text and print it in reverse order.

2. Count Uppercase Letters

Ask the user to enter a sentence.

Print the number of uppercase letters it contains.

3. Replace a Word

Ask the user to enter a sentence, an old word, and a new word.

Replace all occurrences of the old word with the new one, then print the updated sentence.

4. Check for a Palindrome

Ask the user to enter a word.

Determine whether the word reads the same forwards and backwards.

Print "**Palindrome**" or "**Not Palindrome**".

5. Find the Longest Word

Ask the user to enter a sentence.

Print the longest word in the sentence.

8. Capitalize Every Word

Ask the user to enter a sentence.

Print the sentence so that the first letter of every word is uppercase.

Example:

hello world from python

becomes

Hello World From Python

9. Find Character Frequency

Ask the user to enter a text and then enter a single character.

Print how many times that character appears in the text.

10. Print Words Longer Than 4 Characters

Ask the user to enter a sentence.

Print only the words whose length is greater than 4 characters, each on a separate line.