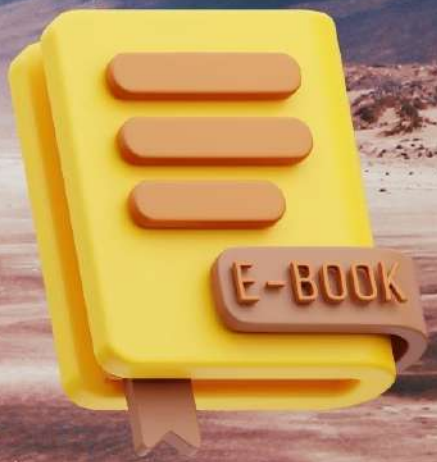
PIITR

Python String



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PYTHON STRINGS

A STRING IN PYTHON IS A SEQUENCE OF CHARACTERS ENCLOSED WITHIN EITHER SINGLE QUOTES (') OR DOUBLE QUOTES ("). STRINGS ARE IMMUTABLE, MEANING THEY CANNOT BE CHANGED AFTER CREATION.

EXAMPLE OF STRINGS

PYTHON

COPY CODE

```
# SINGLE-QUOTED STRING
STRING1 = 'HELLO'

# DOUBLE-QUOTED STRING
STRING2 = "WORLD"

# MULTI-LINE STRING
STRING3 = '''THIS IS A
MULTI-LINE STRING.'''

PRINT(STRING1, STRING2, STRING3)
```

Indexing: Accessing characters using their index.

```
str1 = "Python"
print(str1[0])  # Output: P
print(str1[-1])  # Output: n
```

Slicing: Extracting a substring.

```
str1 = "Python"

print(str1[0:3])  # Output: Pyt

print(str1[2:])  # Output: thon

print(str1[:4])  # Output: Pyth
```

Length: Using len() to find the length of a string.

```
str1 = "Python"
print(len(str1))  # Output: 6
```

String Functions

- str.upper(): Converts all characters to uppercase.
- str.lower(): Converts all characters to lowercase.
- str.capitalize(): Capitalizes the first character.
- str.title(): Capitalizes the first letter of every word.
- str.swapcase(): Swaps the case of all characters.


```
text = "hello WORLD"
print(text.upper())      # Output: HELLO WORLD
print(text.lower())      # Output: hello world
print(text.capitalize()) # Output: Hello world
print(text.title())      # Output: Hello World
print(text.swapcase())   # Output: HELLO world
```

Search and Replace

- str.find(substring): Returns the index of the first occurrence of substring, or -1 if not found.
- str.index(substring): Like find(), but raises an exception if not found.
- str.replace(old, new): Replaces occurrences of old with new.


```
text = "hello world"

print(text.find("world"))  # Output: 6

print(text.replace("world", "Python"))  #

Output: hello Python
```

Checking Properties

- str.isalpha(): Returns True if all characters are alphabetic.
- str.isdigit(): Returns True if all characters are digits.
- str.isalnum(): Returns True if all characters are alphanumeric.
- str.isspace(): Returns True if all characters are whitespace.
- str.startswith(substring): Checks if the string starts with substring.
- str.endswith(substring): Checks if the string ends with substring.

python

Copy code


```
text = "Python123"

print(text.isalpha())  # Output: False

print(text.isalnum())  # Output: True

print(text.startswith("Py"))  # Output: True

print(text.endswith("123"))   # Output: True
```

Formatting

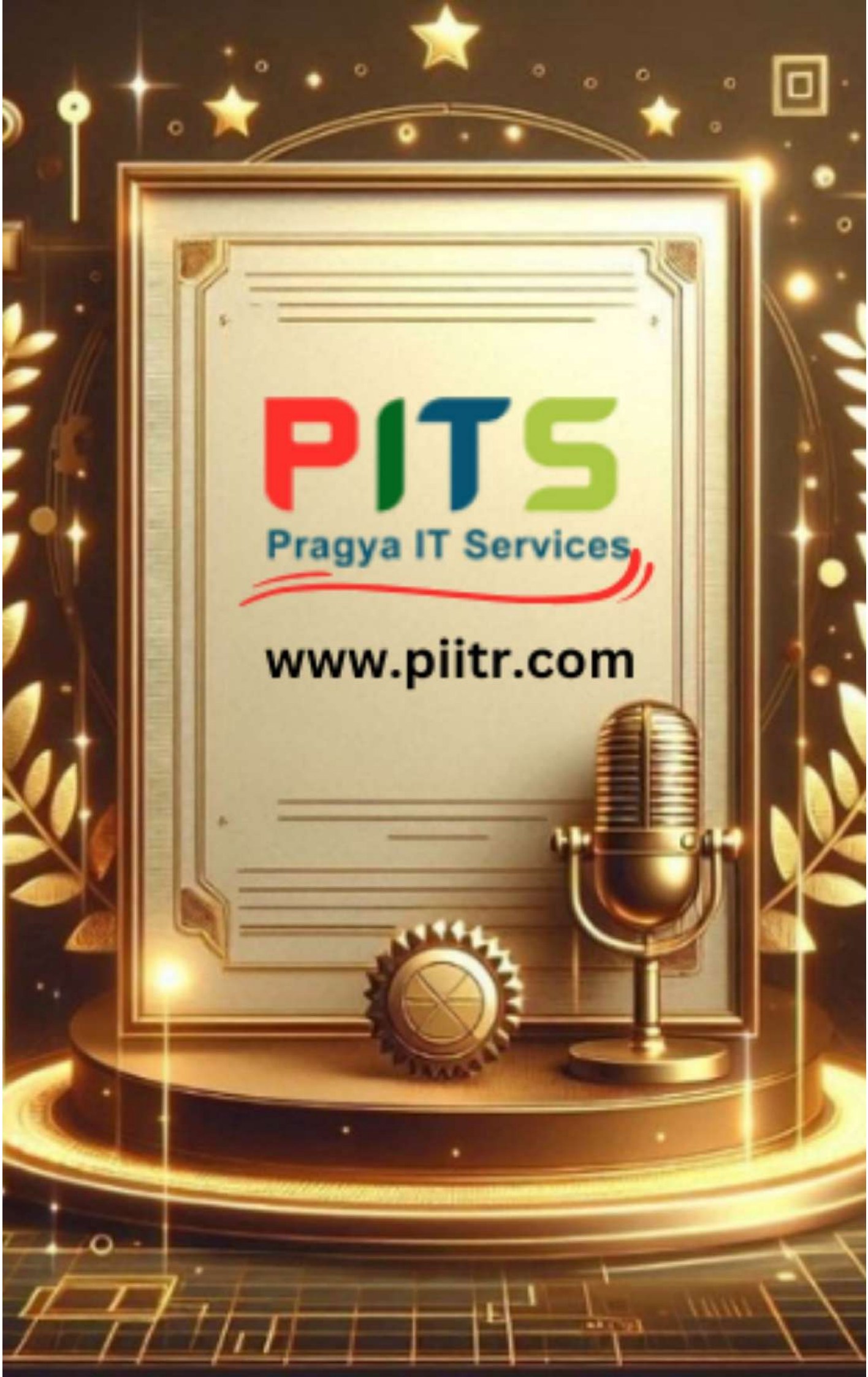
- str.format(): Formats a string.
- f"{}": A more modern way to format strings using f-strings.


```
name = "Alice"

age = 25

print("Name: {}, Age:

{}".format(name, age))  # Output:

Name: Alice, Age: 25

print(f"Name: {name}, Age: {age}")

# Output: Name: Alice, Age: 25
```

Escape Characters

- \n: Newline
- \t: Tab
- \\: Backslash
- \': Single quote
- \": Double quote

```
print("Hello\nWorld")  # Output: Hello
                       #         World
```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