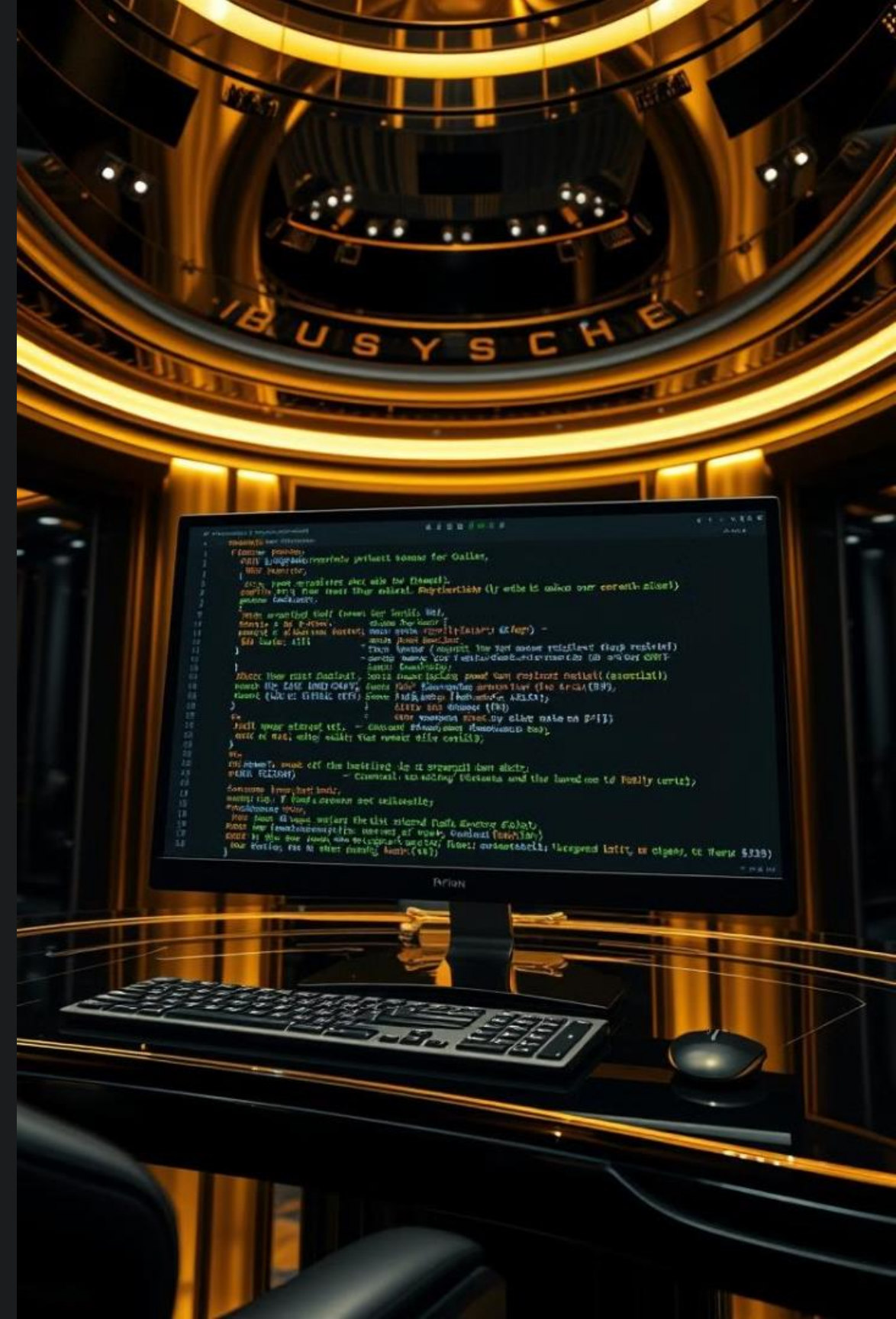


Python Strings: Essential Methods

Python strings are a fundamental data type, offering numerous built-in methods for manipulation and analysis. This presentation explores some of the most common and powerful string methods that every Python programmer should be familiar with.



Case Conversion

Uppercase

The `upper()` method converts all characters in a string to uppercase.

Example

```
A="Hello"  
Print(A.upper())
```

Lowercase

The `lower()` method converts all characters in a string to lowercase.

Example

```
Ta="Jinga"  
Print(Ta.lower())
```

Whitespace Removal

``strip()``

The ``strip()`` method removes leading and trailing whitespace from a string. It returns a new string without the whitespace.

``Example``

```
Ta="  BANSAL "  
Print(Ta.strip())
```

``rstrip()``

The ``rstrip()`` method removes only trailing whitespace from a string.

``Example``

```
Ta="  BANSAL  "  
Print(Ta.rstrip())
```



String Replacement

The `replace()` method is used to replace all occurrences of a specific substring with a new substring within a string.

Example

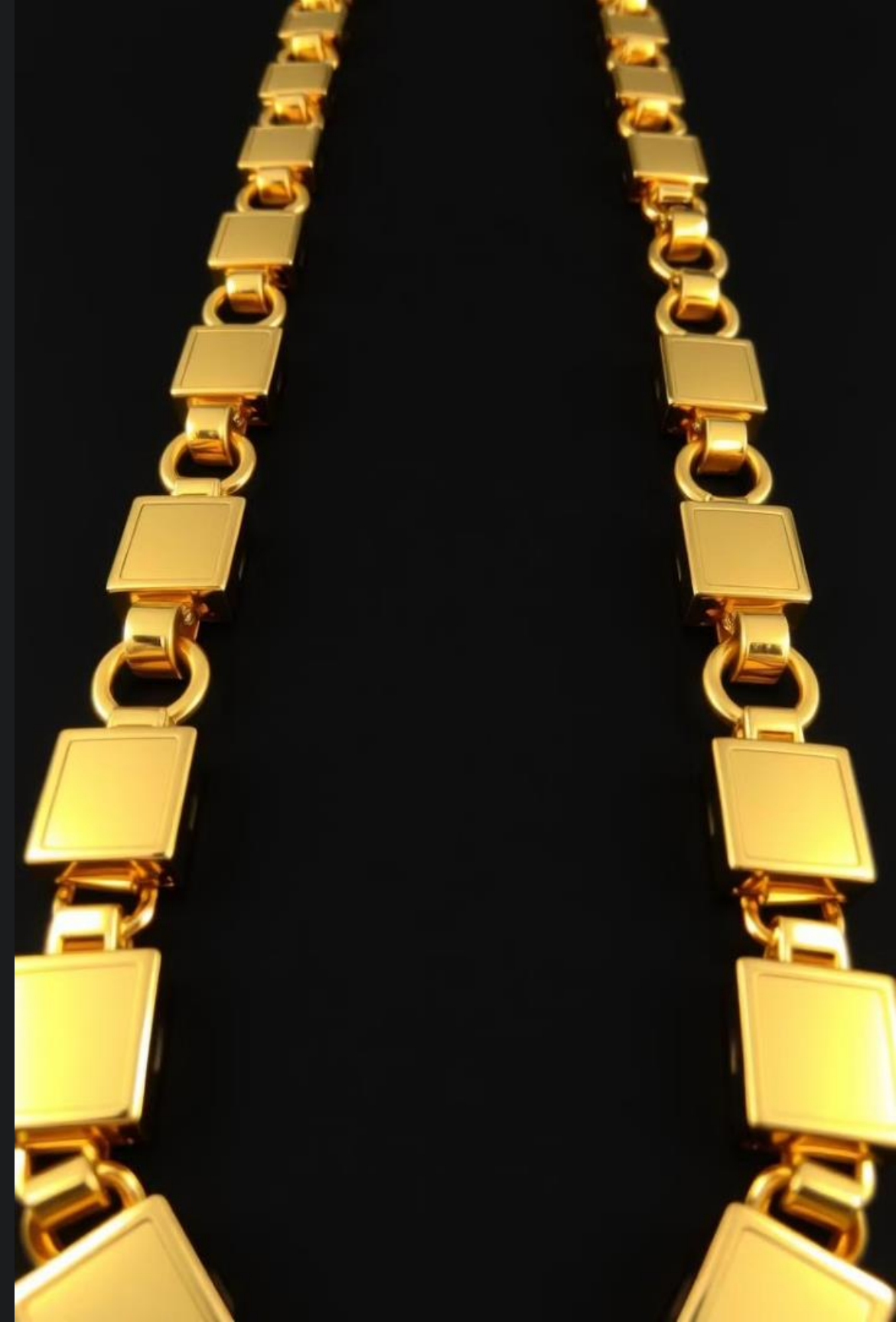
```
name = "Bansal"  
print(name.replace("B", "M")) # Output: Mansal
```

Splitting Strings

The `split()` method divides a string into a list of substrings, using a delimiter to separate them. If no delimiter is provided, the string is split on whitespace.

Example

```
name = "Bansal Sharma"  
print(name.split()) # Output: ['Bansal', 'Sharma']
```



Capitalization and Formatting

Example

1 Capitalize

The `capitalize()` method capitalizes the first character of a string, and converts the rest to lowercase.

2 Center

The `center()` method returns a string centered within a specified width. The string is padded with spaces on both sides.

3 Title Case

The `title()` method capitalizes the first letter of each word in a string.

```
text = "hello world"
```

```
# Using capitalize()
print(text.capitalize()) # Output: 'Hello world'
```

```
# Using center()
print(text.center(20)) # Output: '  hello world  '
```

```
# Using title()
print(text.title()) # Output: 'Hello World'
```

Substring Analysis

`count()`

The `count()` method returns the number of times a substring appears within a string.

`Example`

```
name = "Bansal"  
print(name.count("a")) # Output: 2
```

`endswith()`

The `endswith()` method checks if a string ends with a specific suffix. It returns True if it does, and False otherwise.

`Example`

```
name = "Bansal"  
print(name.endswith("al")) # Output: True
```

Finding Substrings

`find()`

The `find()` method locates the first occurrence of a substring within a string, returning the index of the first character of the substring. If the substring is not found, it returns -1.

`Example`

```
name = "Bansal"  
print(name.find("sa")) # Output: 2 (index of 'sa')
```

`index()`

Similar to `find()`, but `index()` raises a `ValueError` if the substring is not found in the string.

`Example`

```
name = "Bansal"  
print(name.index("sa")) # Output: 2
```

String Validation

Alphanumeric

The ``isalnum()`` method checks if a string contains only alphanumeric characters (letters and numbers) and returns True if it does.

Example

```
name = "Bansal123"  
print(name.isalnum()) # Output:  
True
```

Alphabetic

The ``isalpha()`` method checks if a string contains only alphabetic characters and returns True if it does.

Example

```
name = "Bansal"  
print(name.isalpha()) # Output: True
```

Lowercase

The ``islower()`` method checks if all characters in a string are lowercase and returns True if they are.

Example

```
name = "bansal"  
print(name.islower()) # Output: True
```

String Validation

Whitespace

The `isspace()` method checks if a string contains only whitespace characters and returns True if it does.

Example

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

Title Case

The `istitle()` method checks if a string is in title case (where each word starts with an uppercase letter) and returns True if it is.

Example

```
name = "Bansal"  
print(name.istitle()) # Output: True
```

String Validation

Startswith(prefix)

Checks if the string starts with the given prefix

Example

```
name = "Bansal"  
print(name.startswith("Ban")) # Output: True
```

Swapcase()

Makes Uppercase letters to lower and Lower case letters to upper

Example

```
name = "Bansal"  
print(name.swapcase()) # Output: bANSAL
```

Thanks