Sequences: Strings

Software Engineering Lecture Housekeeping

- The use of disrespectful language is prohibited in the questions, this is a supportive, learning environment for all - please engage accordingly. **(FBV: Mutual Respect.)**

- No question is daft or silly - **ask them!**

- There are **Q&A sessions** midway and at the end of the session, should you wish to ask any follow-up questions. Moderators are going to be answering questions as the session progresses as well.

- If you have any questions outside of this lecture, or that are not answered during this lecture, please do submit these for upcoming Open Classes. You can submit these questions here: **Open Class Questions**

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Software Engineering Lecture Housekeeping cont.

- For all **non-academic questions**, please submit a query:

  www.hyperiondev.com/support

- Report a **safeguarding** incident:

  www.hyperiondev.com/safeguardreporting

- We would love your **feedback** on lectures: **Feedback on Lectures**

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Lecture Objectives

1. **Define and construct strings in Python.**

2. **Master key string methods for effective text manipulation in Python.**

3. **Effectively extract characters and substrings from strings using indexing and slicing.**

4. **Utilize string concatenation and formatting techniques in Python.**

Poll

Assessment

Question

What string method would you use to convert a string to uppercase characters?

String Creation and Initialization

```python
message = "This is a string"
print(message)
```

Basic String Methods

"codingforfun"	Capitalize()	Codingforfun
"codingforfun"	.isalpha()	True
"54369"	.isnumeric()	True
"codingforfun"	.isupper()	False
"codingforfun"	.split()	['coding', 'for', 'fun']
"runningforfun"	.title()	Runningforfun
" coding "	.strip()	coding
"codingforfun"	.replace("d", "m")	comingforfun

BOARD

Strings Are Immutable

- When an object is immutable it means the object cannot be changed.

- When we apply methods to a string that appear to make changes, they are actually creating and returning new string objects.

- This means we have to store the changes we make in a variable to be reused.
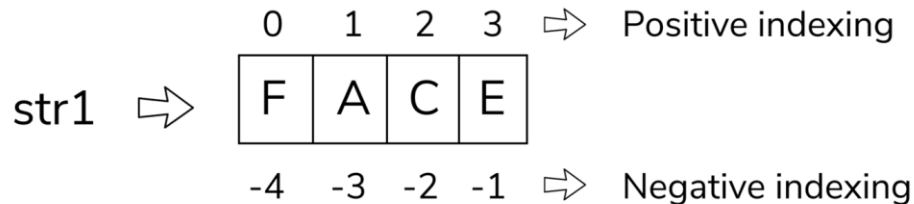
Question:

What is the difference between upper() **and** capitalize()
method ?

String Indexing

String Slicing

str1 →

0	1	2	3	⇨ Positive indexing
F	A	C	E

-4   -3   -2   -1   ⇨ Negative indexing

str1[1:3] = AC

str1[-3:-1] = AC

String Indexing

Challenge

How would you reverse a string using slicing?
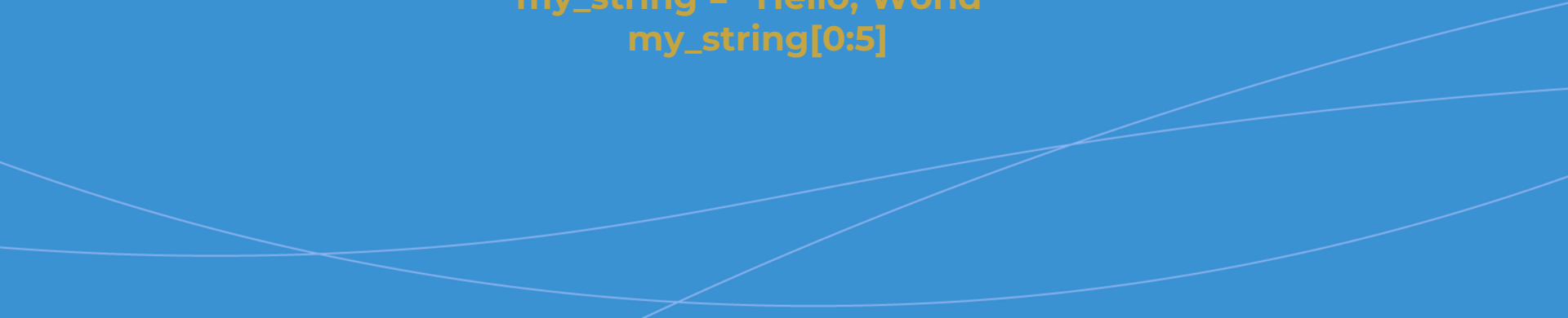
f-strings and format() function


```
location = 'World'
print(f"Hello, {location}!")
```

Challenge:

What is the result of the following expression:

my_string = "Hello, World"
my_string[0:5]

Poll

Assessment

Wrapping Up

String Methods

Built-in functions that operate on strings, providing various functionalities such as manipulating case, finding substrings, determining length and many more.

String Indexing and Slicing

It's all about accessing characters within a string using their position and extracting a substring from a string.

String Formatting

The process of inserting values and expressions into a string to create informative output.

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Questions around Strings

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Thank you for joining