Data Types in Python

1 **Integer**

whole numbers like 10,25,15

2 **String**

Sequences of characters, like "Hello, world!" or "Python is awesome!".

3 **Float**

Decimal numbers, such as 3.14 or

4 **Boolean**

Logical values that can be True or False.

5 **Complex**

Numbers with both real and imaginary components, such as 2 + 3j.

Special Data Types/Structures in Python

List

An ordered collection of items in [] square brackets, such as [1, 2, 3, 'apple', 'banana', True].

Tuple

An immutable ordered collection of items in ()parentheses, like (1, 2, 3, 'apple', 'banana').

Set

An unordered collection of unique items in {} curly brackets, for example {'apple', 'banana', 'cherry'}.

Dictionary

A collection of key-value pairs in {} curly brackets, such as {'name': 'John', 'age': 30, 'city': 'New York'}.

Essential Functions in Python

print()

Outputs text or variables to the console, like print("Hello, world!").

input()

Prompts the user for input, which can be stored in a variable, such as name = input("What's your name?").

type()

Returns the data type of a variable or object, for example type(42) returns .

len()

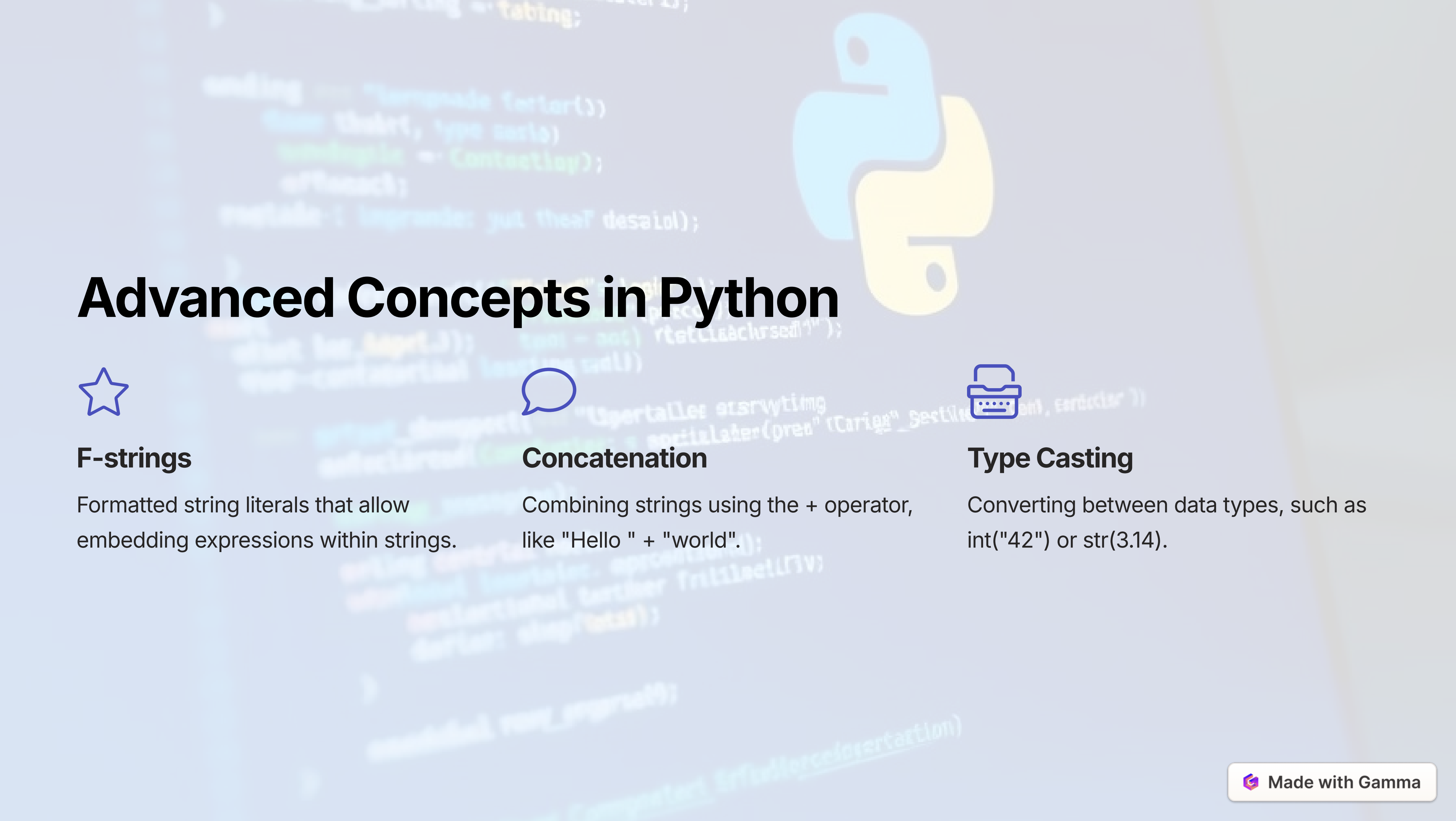
Returns the length of a string, list, or other iterable, like len("Python") or len([1, 2, 3]).

count()

counts occurrence of an element in a list, tuple etc.

help()

display documentation about an object



Advanced Concepts in Python

F-strings

Formatted string literals that allow embedding expressions within strings.

Concatenation

Combining strings using the + operator, like "Hello " + "world".

Type Casting

Converting between data types, such as int("42") or str(3.14).