### Business Programming (using Python)

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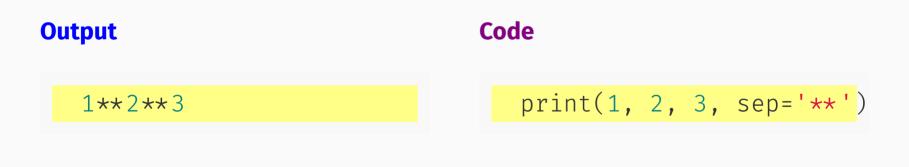
## Main topics

- Go over some of the Severance Chapter 4 concepts
- What is a function?
  - Exercise: Functions

### Defining and Using Functions

## What is a function?

- Functions are groups of code that have a **name**, and can be called using **parentheses**.
  - o print(): function name;
  - Hello, world! is the function's input argument.
  - sep: character or characters should be used to separate multiple items.



- How would you implement this?
  - Question: Describe a Python function named add\_1 that takes a single argument x and returns the value of x incremented by 1.

# Defining functions

- Functions become even more useful when we begin to define our own, organizing functionality to be used in multiple places.
  - Functions are defined with the def statement.



#### Code

```
def add_1(x):
    """Adds 1 to the input.
    Args:
        x (int/float): A numberical valu
    Returns:
        x + 1
    """
    return x + 1
```

### More on functions

#### Code

```
def add_1(x):
    """Adds 1 to the input.
    Args:
        x (int/float): A numberical valu
    Returns:
        x + 1
    """
    return x + 1
```

- def add\_1(x): defines a new function named
   add\_1 that takes one parameter x.
  - The triple quotes """ enclose the docstring, which describes what the function does and its parameters and return value.
  - Args: describes the arguments that the function takes. - x (int/float): A numerical value states that x can be an integer or a float and that it represents a numerical value.
  - Returns: describes what the function returns.
  - x + 1 indicates that the function returns the input incremented by 1.
- return x + 1 is the code that's executed when the function is called, returning x incremented by 1.

### More on functions

- A docstring is a special kind of comment in Python that's used for documentation.
  - It appears right after the definition of a function, class, or module and is enclosed in triple quotes
     (''' or """). The help() or ? function can use these docstrings to provide information about how the code works.

#### Output

```
help(add_1)
```

```
\vdash Help on function add_1 in module __main__:
```

```
add_1(x)
Adds 1 to the input.
```

```
Args:
x (int/float): A numberical value
```

Returns:

x + 1

#### • Comments

- Using help() or ? one can access this docstring
- help(add\_1) Or add\_1?

- Please click on the link provided below.
  - In-Class Exercise