If Statements Examples Exploration

Corresponding Material

Module 4: Conditionals, Lesson 2: If Statements

Class Exercise

Open example *4.2.3: Your First If Statement* and answer the following questions:

1. What happens when **`has_dog`** is set to **`False`**?

2. What happens when **`has_dog`** is set to **`true`**?

Open example *4.2.4: If/Else Statement* and answer the following questions:

1. What happens when **`has_dog`** is set to **`False`**?

2. What do you think will happen if **`has_dog`** is set to **`"hi"`**?

3. Make the change. What happens when **`has_dog`** is set to **`"hi"`**?

4. What happens when **`has_dog`** is set to **`""`**? (an empty string)

This is a very odd result! In Python, any string is considered *truthy*, or True, while any empty string (“”) is considered *falsy*, or False. Read through this section of the Python Documentation to learn more:

Truth Value Testing

(https://docs.python.org/3/library/stdtypes.html#truth-value-testing)

Any object can be tested for truth value, for use in an `if` or `while` condition or as operand of the Boolean operations below.

By default, an object is considered true unless its class defines either a `__bool__()` method that returns `False` or a `__len__()` method that returns zero, when called with the object. Here are most of the built-in objects considered false:

- constants defined to be false: `None` and `False`.
- zero of any numeric type: `0`, `0.0`, `0j`, `Decimal(0)`, `Fraction(0, 1)`
- empty sequences and collections: `''`, `()`, `[]`, `{}`, `set()`, `range(0)`

Operations and built-in functions that have a Boolean result always return `0` or `False` for false and `1` or `True` for true, unless otherwise stated. (Important exception: the Boolean operations `or` and `and` always return one of their operands.)

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5. After reading this section of the Python documentation, what do you think will happen if **`has_dog`** is set to `3`?

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6. Make the change. What happens when **`has_dog`** is set to `3`?

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7. What happens when **`has_dog`** is set to `0`?

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