# Python Statements

# If, elif , else Statements

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- Let's begin to learn about **control flow**
- We often only want certain code to execute when a particular condition has been met.
- For example, **if** my dog is hungry (some condition), then I will feed the dog (some action).

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- To control this flow of logic we use some keywords:
    - **if**
    - **elif**
    - **else**

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- Control Flow syntax makes use of colons and indentation (whitespace).

- This indentation system is crucial to Python and is what sets it apart from other programming languages.

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- Syntax of an **if** statement

```
if some_condition:
        # execute some code
```

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- Syntax of an **if/else** statement

```
if some_condition:
        # execute some code
else:
        # do something else
```

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- Syntax of an **if/else** statement

```
if some_condition:
        # execute some code
elif some_other_condition:
        # do something different
else:
        # do something else
```

# Let’s explore these concepts!

# For Loops

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Many objects in Python are “iterable”, meaning we can iterate over every element in the object.

Such as every element in a list or every character in a string.

We can use for loops to execute a block of code for every iteration.

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The term **iterable** means you can “iterate” over the object.

For example you can iterate over every character in a string, iterate over every item in a list, iterate over every key in a dictionary.

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- Syntax of a for loop

```
my_iterable = [1,2,3]
for item_name in my_iterable:
        print(item_name)
```

```
>> 1
>> 2
>> 3
```

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- Syntax of a for loop

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# Let’s explore these concepts!

# While Loops

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While loops will continue to execute a block of code **while** some condition remains True.

For example, **while** my pool is not full, keep filling my pool with water.

Or **while** my dogs are still hungry, keep feeding my dogs.

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- Syntax of a while loop

```
while some_boolean_condition:
    #do something
```

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- You can combine with an else if you want

```
while some_boolean_condition:
        #do something
else:
    #do something different
```

# Let’s explore these concepts!

# Useful Operators

# List Comprehensions

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List Comprehensions are a unique way of quickly creating a list with Python.

If you find yourself using a for loop along with .append() to create a list, List Comprehensions are a good alternative!

To do this, let's go to a Jupyter Notebook!

# Python Statements Test Solutions