Starter Activity

Think about the differences between JavaScript and Python that we looked at yesterday.

In the teams chat I would like you have a go at declaring an array in Python syntax. If you are unsure just give your best guess.
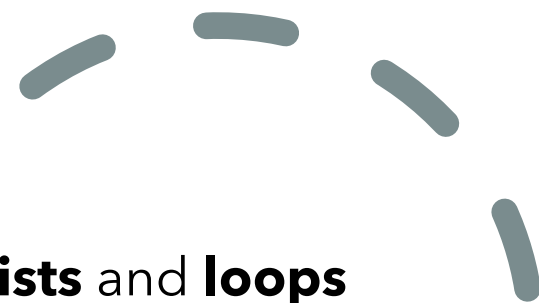
Python

Lists and Loops

Session Expectations:

- Cameras on 📷
- Mics muted 🔇
- Raise Hand ✋
- React 👍
- Respond "?"

Learning Objectives

- **Intent**: To explore how **lists** and **loops** work in Python.

- **Implementation**: To add **lists** and **different types** of loops to our Python code.

- **Impact**: To contextualise **how**, **when** and **why** loops should be implemented.

Python Lists (Arrays)

In Python, lists are dynamic arrays similar to arrays in JavaScript. Both structures can hold a collection of elements, support various data types, and allow for indexing and iteration.

JavaScript vs Python Syntax:

```javascript
JS example.js

let myArray = [1, 2, 3, 4, 5];
```

```python
example.py

my_list = [1, 2, 3, 4, 5]
```

JavaScript arrays require the variable declaration keyword.

Python lists just like variables do not, however, remember to use `snake_case`.

Again, other than the slight syntax differences, the idea is the exact same.

Python Loops

Loops in Python and JavaScript are conceptually similar, both allowing repeated execution of code blocks based on conditions or iterating over data structures.

Similarly to conditional statements, the concept does not change. Just the language and Syntax it is written in.

JavaScript vs Python Syntax:

JS example.js

```javascript
let numbers = [1, 2, 3, 4, 5];

for (let i = 0; i < numbers.length; i++) {
    console.log(numbers[i]);
}
```
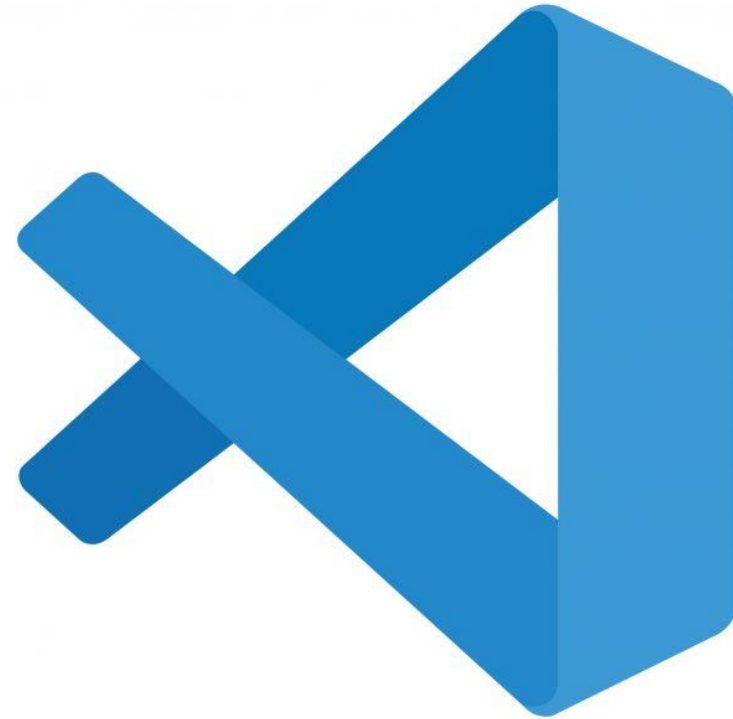
example.py

```python
numbers = [1, 2, 3, 4, 5]

for number in numbers:
    print(number)
```

JavaScript for loops require an index and a condition.

Whereas **Python** for loops are more similar to a for of loop in **JavaScript**.

Again, other than the syntax differences, the idea is the exact same.

Let's move over to VS Code to work through some examples

Reference Links:

List Methods: https://www.programiz.com/python-programming/methods/list

For Loop: https://www.programiz.com/python-programming/for-loop

While Loop: https://www.programiz.com/python-programming/while-loop