Python Basics: Takeaways

Syntax

COMMON ARITHMETIC OPERATORS

- Parentheses `()` : `(5 / 5) + 5`
- Exponent `**` : `65**5`
- Multiplication `*` : `5 * 5`
- Division `/` : `5 / 5`
- Addition `+` : `5 + 5`
- Subtraction `-` : `5 - 5`

COMMON VARIABLE OPERATIONS

- Assigning a value directly to a variable:

```
integer_val = 5

float_val = 5.0

string_val = "5"
```

- Assigning the result of a calculation to a variable:

```
total = 5 + 5

average = (5 + 5 + 5) / 3
```

DISPLAYING VALUES

- Displaying a value:

```
integer_val = 5

print(5)

print(integer_val)

print(5 + 5 + 5)
```

- Displaying a value's data type:

```
integer_val = 5

print(type(integer_val))
```

LIST OPERATIONS

- Creating an empty list:

```
crime_rates = []
```

- Creating a list with values:

```
crime_rates = [749,371,828,503,1379]
```

- Appending a value to a list:

```
crime_rates = []

crime_rates.append(749)

crime_rates.append(371)
```

- Accessing individual elements in a list:

```
crime_rates = [749,371,828,503,1379]

cr_first = crime_rates[0]

cr_third = crime_rates[2]
```

- Working with the length of a list:

```
crime_rates = [749,371,828,503,1379]

length = len(crime_rates)

last_element = crime_rates[length-1]
```

- Accessing slices of values in a list:

```
crime_rates = [749,371,828,503,1379]

cr_slice = crime_rates[0:3] # Values at 0, 1, 2
```

Concepts

- When evaluating expressions, Python uses the order of operations rules from mathematics.
- Every value in Python has a data type associated with it. The common data types are:
  - Strings: `"6"`
  - Integers: `6`
  - Floats: `6.0`

Resources

- Documentation on all arithmetic operators
- List of reserved words in Python
- Documentation on lists