Data Types in Python

Python supports various data types that are used to define the operations possible on them and the storage method for each of them.

Basic Data Types

1. Numeric Types

- **int**: Integer type, which includes whole numbers.
- **float**: Floating-point number, which includes decimal numbers.
- **complex**: Complex numbers, which include real and imaginary parts.

```
# Examples of numeric types
a = 10       # int
b = 3.14     # float
c = 1 + 2j   # complex
```

2. Sequence Types

- **str**: String type, used for text.
- **list**: List type, an ordered collection of items.
- **tuple**: Tuple type, an ordered and immutable collection of items.

```
# Examples of sequence types
s = "Hello, Python!"   # str
l = [1, 2, 3, 4, 5]    # list
t = (1, 2, 3, 4, 5)    # tuple
```

3. Mapping Type

- **dict**: Dictionary type, an unordered collection of key-value pairs.

```
# Example of a mapping type
d = {"name": "Alice", "age": 25, "city": "New York"}
```

4. Set Types

- **set**: An unordered collection of unique items.
- **frozenset**: An immutable version of a set.

```
# Examples of set types
set1 = {1, 2, 3, 4, 5}          # set
frozenset1 = frozenset({1, 2, 3, 4, 5})  # frozenset
```

5. Boolean Type

- **bool**: Represents Boolean values, `True` and `False`.

```python
# Example of boolean type
is_valid = True
```

Special Data Types

1. None Type

- **NoneType**: Represents the absence of a value or a null value.

```python
# Example of None type
x = None
```

2. Bytes and Bytearray Types

- **bytes**: Immutable sequences of bytes.
- **bytearray**: Mutable sequences of bytes.

```python
# Examples of bytes and bytearray types
b = b"Hello"
ba = bytearray(b"Hello")
```

Type Conversion

Python provides built-in functions to convert between different data types.

```python
# Examples of type conversion
num_str = "123"
num_int = int(num_str)  # Converts string to integer

flt_str = "123.45"
flt_num = float(flt_str)  # Converts string to float

num_list = list(flt_str)  # Converts string to list
```

Stay Updated

Be sure to this repository to stay updated with new examples and enhancements!

License

Contact

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Note: This is a Python script and requires a Python interpreter to run.

Happy Coding

Made with by Panagiotis Moschos (https://github.com/pmoschos)