

Assignment No - 2

Exploring Python Data Types and Their Methods

Introduction:

Python provides various built-in data types, each with specific methods that allow manipulation and interaction. Understanding these methods is crucial for efficient programming. This assignment explores the methods associated with Python's fundamental data types: int, float, complex, list, tuple, str, set, dict, and bool.

Methods of Python Data Types:

To explore available methods, the `help()` function can be used. Below are examples of common methods for each data type.

1. Integer (int)

```
num = 10
print(num.bit_length())
print(num.to_bytes(2, byteorder='big'))
```

2. Float (float)

```
decimal_num = 10.5
print(decimal_num.is_integer())
print(decimal_num.hex())
```

3. Complex (complex)

```
comp_num = 3 + 4j
print(comp_num.real)
print(comp_num.imag)
```

4. List (list)

```
my_list = [1, 2, 3, 4]
my_list.append(5)
print(my_list.count(2))
```

5. Tuple (tuple)

```
my_tuple = (1, 2, 3, 4, 2)
print(my_tuple.count(2))
print(my_tuple.index(3))
```

6. String (str)

```
text = "Python Programming"
print(text.upper())
print(text.replace("Python", "Advanced"))
```

7. Set (set)

```
my_set = {1, 2, 3, 4}
my_set.add(5)
print(my_set.pop())
```

8. Dictionary (dict)

```
my_dict = {"name": "John", "age": 25}
print(my_dict.keys())
print(my_dict.values())
```

9. Boolean (bool)

```
print(bool(1))
print(bool(0))
```

Using help() Function

To explore available methods for any data type, use the help() function:

help(int) # Displays all methods of integer type

Conclusion:

Python data types provide various built-in methods that facilitate easy manipulation of values. By using the help() function, one can explore these methods and understand their functionalities better.

THANKYOU