1. What are the basic data types in Python?

Python has several built-in data types that are used to classify different kinds of values. The most common and basic data types in Python include:

- **int (Integer):**
    - Represents whole numbers, positive or negative.
    - Example: x = 10
- **float (Floating-point number):**
    - Represents real numbers with decimal points.
    - Example: y = 3.14
- **str (String):**
    - Represents a sequence of characters (text data).
    - Example: name = "Alice"
- **bool (Boolean):**
    - Represents two values: True or False.
    - Example: is_valid = True
- **list (List):**
    - Represents an ordered sequence of items, which can be of mixed data types.
    - Example: numbers = [1, 2, 3, 4]
- **tuple (Tuple):**
    - Represents an ordered and immutable sequence of items.
    - Example: coordinates = (10.0, 20.5)
- **dict (Dictionary):**
    - Represents a collection of key-value pairs.
    - Example: student = {"name": "John", "age": 21}
- **set (Set):**
    - Represents an unordered collection of unique items.
    - Example: unique_numbers = {1, 2, 3}

2. What is the use of type() function in Python?

The type() function in Python is used to determine the type of a given variable or value. It returns the data type of the object passed as an argument.

Syntax:

type(object)

Examples:

- **For integers:**

```
x = 10

print(type(x))  # Output: <class 'int'>
```

- **For strings:**

```
s = "Hello"

print(type(s))  # Output: <class 'str'>
```