Now we see the difference between the set and the list. This is the assignment we must do on MS word.

Sets:

1. **Definition:**
- A set is an unordered collection of unique elements.
- Elements in a set are enclosed in curly braces `{}`.

2. **Uniqueness:**
- Sets do not allow duplicate elements.

3. **Order:**
- Sets do not maintain the order of elements.

4. **Example:**

```python
fruits_set = {"apple", "banana", "orange", "apple"}
```

Lists:

1**. Definition:**
- A list is an ordered collection of elements.
- Elements in a list are enclosed in square brackets `[]`.

2. **Uniqueness:**
- Lists allow duplicate elements.

3. **Order:**
- Lists maintain the order of elements.

4. **Example:**

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

Practical Example:

Let's consider a scenario where we need to store a list of unique usernames for a website and a list of usernames allowing duplicates.

```python
# Set of unique usernames
unique_usernames_set = {"user1", "user2", "user3", "user1"}
# List of usernames allowing duplicates
usernames_list = ["user1", "user2", "user3", "user1"]
# Displaying the sets and lists
print("Set of Unique Usernames:", unique_usernames_set)
print("List of Usernames (Allowing Duplicates):", usernames_list)
```

We see the difference between the data structure and the data type in the python, that is the assignment.

Data Structures:

1. **Definition:**
- Data structures in Python are arrangements and organizations of data elements to perform various operations efficiently.
- Examples: Lists, sets, dictionaries, tuples.

2. Purpose:
- Provide organized storage and retrieval mechanisms for data.

3. Usage:
- Utilized to represent complex relationships and structures within a program.

Data Types:

1. **Definition:**
- Data types in Python define the nature of the data stored in variables.
- Examples: int, float, str, bool.

2. **Purpose:**
- Indicate the kind of values a variable can hold.

3. **Usage:**
- Specify the format and operations applicable to a particular variable or constant.

Assignment Example:

Consider a scenario where you need to store information about students in a school. The data structure could be a list of dictionaries, where each dictionary represents a student with various attributes.

```python
# Data Structure (List of Dictionaries)
students_data = [
  {"name": "Alice", "age": 15, "grade": "10th"},
  {"name": "Bob", "age": 16, "grade": "11th"},
  {"name": "Charlie", "age": 15, "grade": "10th"}
]
# Data Type (Example Variable)
student_name = "Alice"
```