

Data Seekho Fellowship Python Module Assignment

Question 1: Class Attendance using a List

You are keeping track of student attendance using a list. Sometimes students may enter their names more than once.

- **Step 1:** Create a list called `attendance_list` with the names:
 - ["John", "Emma", "John", "Ava", "Sophia", "Emma"]
- **Step 2:** Print the list to see the attendance.
- **Step 3:** Count how many names (including duplicates) are in the list and print the total number.

```
Attendance List: ['John', 'Emma', 'John', 'Ava', 'Sophia', 'Emma']
Total students (including duplicates): 6
```

Question 2: Unique Attendance using a Set

To find out how many **unique** students attended the class, use a set. A set automatically removes duplicates.

- **Step 1:** Convert the `attendance_list` from Question 1 into a set.
- **Step 2:** Print the set to see the unique student names.
- **Step 3:** Count and print the total number of unique students.

```
Unique Attendance Set: {'John', 'Emma', 'Sophia', 'Ava'}
Total unique students: 4
```

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Question 3: Storing Attendance Permanently with a Tuple

A tuple is used when you don't want the list to change. Let's store the attendance in a tuple.

- **Step 1:** Create a tuple called attendance_tuple with these names:
 - ("John", "Emma", "Ava", "Sophia")
- **Step 2:** Print the tuple to display the names.

```
Attendance Tuple: ('John', 'Emma', 'Ava', 'Sophia')
```

Question 4: Count Attendance using a Dictionary

You want to count how many times each student attended the class.

- **Step 1:** Using the attendance_list from Question 1, create a dictionary where each student's name is a **key**, and the number of times they attended is the **value**.
- **Step 2:** Print the dictionary to see each student's attendance count.

```
Attendance Dictionary: {'John': 2, 'Emma': 2, 'Ava': 1, 'Sophia': 1}
```