Assignment#1

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Q#1: **What is a set in Python? What are the advantages of using a set over a list?**

Ans: A set in Python is an unordered collection of unique elements. It is define using curly brackets.

Advantages:

1. removes duplicate values.

2. Supports mathematical operations like union, intersection, and difference efficiently.

Q#2 **Explain the difference between union and intersection in sets with examples.**

Answer: Union combines elements from two sets, removing duplicates, while intersection returns the common elements.

Q#3 **What is a frozen set? How is it different from a normal set?**

Answer: A frozen setis an immutableversion of a set. Once created, its elements cannot be modified, while normal set can be modified.

Q#4 **Can a set contain duplicate elements? Why or why not?**

Answer: No, sets cannot contain duplicate because they are designed to store only unique numbers.

Q#5 **Explain how sets handle unordered data. Provide an example.**

Answer: Sets store elements in an unordered manner, meaning the order of elements is not guaranteed. The output might be {1, 2, 3}, {3, 2, 1}, or another random order. This lack of order is characteristic of sets in languages like Python.