**Questionnaire: Set, List, or Tuple?**

For each of the following scenarios, decide which data structure is best suited: a **Set**, a **List**, or a **Tuple**. Justify your choice.

**Case 1: Favorite Songs Playlist**

You are building a music player app that allows users to create a playlist where they can **add, remove, and reorder** songs freely. The playlist should maintain the order of the songs.

* **Question**: What data structure should you use?

**Case 2: Days of the Week**

You are creating a calendar app, and you need to store the **seven days of the week**. These days will never change.

* **Question**: What data structure should you use?

**Case 3: Unique Product IDs**

You are working on an e-commerce website that needs to keep track of **unique product IDs** to ensure no product is listed twice.

* **Question**: What data structure should you use?

**Case 4: Shopping Cart**

You are developing an online store, and you need a data structure to keep track of the **items in a user's shopping cart**. Items may be added, removed, and the list may contain **duplicate items** (e.g., two of the same item).

* **Question**: What data structure should you use?

**Case 5: Immutable Coordinates**

You are creating an app that tracks users' locations. For each user, you need to store their **latitude and longitude** coordinates, which must remain unchanged after being set.

* **Question**: What data structure should you use?

**Case 6: Guest List for a Party**

You are organizing a party and need to maintain a list of guests. **You don’t want any guest to be invited more than once**, but the order of invitations doesn't matter.

* **Question**: What data structure should you use?

**Case 7: Scores in a Game**

You are building a simple game, and you want to keep track of the **scores** achieved by each player. Scores will be stored in the order they were achieved, and **duplicates are allowed**.

* **Question**: What data structure should you use?

**Case 8: High Scores in a Game**

You want to store the top 5 **highest scores** ever achieved in your game. Once these scores are set, they **should not change**.

* **Question**: What data structure should you use?

**Case 9: Survey of Favorite Foods**

You are conducting a survey where participants can list their **favorite foods**. Some foods may be listed by multiple participants, and you need to store **all the responses** in the order they are received.

* **Question**: What data structure should you use?

**Case 10: Contact List**

You are designing a phonebook app that allows users to store the contact details (name, phone number) of their friends. Contacts can be added and removed, and users can view the contacts in a specific order.

* **Question**: What data structure should you use?

**Answer Key (for reference):**

1. **List** (because the user can reorder and modify the playlist).
2. **Tuple** (since the days of the week are constant and unchangeable).
3. **Set** (to ensure unique product IDs with no duplicates).
4. **List** (since the order matters and duplicates are allowed).
5. **Tuple** (as coordinates are immutable and shouldn’t change).
6. **Set** (to prevent duplicate guests).
7. **List** (since the order matters and duplicates are allowed).
8. **Tuple** (since the scores should remain unchanged).
9. **List** (since you want to store all responses in order).
10. **List** (since contacts can be added, removed, and ordered).