**List, Set, Tuple, Dictionary**

**Q1. Difference between list and tuple?**  
 List is mutable; tuple is immutable.

**Q2. Difference between set and dictionary?**  
 Set contains unique elements, dictionary contains key-value pairs.

**Q3. How do you remove duplicates from a list?**  
Convert to set:

list(set(mylist))

**Q4. How do you iterate over dictionary keys and values?**

for k, v in mydict.items():

print(k, v)

**Q5. Which data structures are ordered/unordered in Python 3.7+?**  
List, tuple, dict (insertion order preserved), set (unordered).

**Q6. Difference between list and array?**  
List is dynamic, heterogeneous; array is fixed-type (from array module).

**Q7. How to create a tuple with one element?**  
(5,) not (5).

**Q8. Can a set contain duplicate values?**  
No, sets store only unique values.

**Q9. Are sets ordered?**  
No, sets are unordered.

**Q10. Difference between shallow copy and deep copy in lists?**  
Shallow copy copies references; deep copy creates independent objects.

**Q11. How to merge dictionaries in Python 3.9+?**  
Using the union operator: dict1 | dict2.

**Q12. Can dictionary keys be mutable?**  
No, keys must be immutable (int, str, tuple).

**Q13. Difference between is and ==?**  
is checks identity, == checks equality of values.

**Q14. How do you sort a dictionary by keys?**  
dict(sorted(my\_dict.items())).

**Q15. How do you check if a key exists in a dictionary?**  
if key in my\_dict:

**Q16. Which data structures are mutable/immutable?**  
Mutable: list, dict, set. Immutable: tuple, str, frozenset.

**Q17. How do you remove duplicates while preserving order in a list?**

list(dict.fromkeys(mylist))