1. What is dictionary in Python?

A dictionary in Python is a built-in data type that stores key-value pairs. Keys must be unique and immutable, while values can be of any type.

2. How to create and get the length of python dictionary?

Create: my_dict = {'a': 1, 'b': 2}

Length: len(my_dict)

3. Explain the key characteristics of dictionaries in Python.

Dictionaries are unordered, mutable, and indexed by keys. Keys must be unique and immutable.

4. How can you access values in a dictionary using keys?

Using square brackets or get(): my_dict['a'] or my_dict.get('a')

5. How do you add a key-value pair to an existing dictionary?

my_dict['c'] = 3

6. How can you update a key-value pair from a dictionary in python using keys?

my_dict['a'] = 10

7. How can you remove a key-value pair from a dictionary in python using keys?

Using del: del my_dict['a']

8. How do you check the length of a dictionary in Python?

Using len(): len(my_dict)

9. Can you concatenate two dictionaries in Python?

Yes, using update() or | operator (Python 3.9+): dict1.update(dict2) or dict3 = dict1 | dict2

10. Can you repeated a dictionary object using repetition operator?

No, dictionaries do not support repetition like lists or strings.

11. How to creating empty dictionary object in python?

Using {} or dict(): empty_dict = {} or empty_dict = dict()

12. Is dictionary mutable or immutable type object? Why ?

Mutable, because its content can be changed after creation.

13. Is dictionary allowing duplicate keys?

No, keys must be unique.

14. Is dictionary allowing duplicate values?

Yes, values can be duplicated.

15. Is dictionary allowing mutable objects as a keys?

No, keys must be immutable (e.g., int, str, tuple).

16. How to check if Items are present/exist in Dictionary ?

Using 'in' operator: 'a' in my_dict

17. What is the differences between pop() vs popitem() in dict?

pop() removes a specified key, popitem() removes the last inserted key-value pair.

18. What is the use of update() in dict?

It updates the dictionary with elements from another dictionary or iterable of key-value pairs.

19. How to merge two or more dictionaries and return as a new dictionary?

Using unpacking: {**dict1, **dict2}

20. How to remove all key-value pairs at once from a dictionary?

Using clear(): my_dict.clear()

21. How to create new dictionary object using existing dictionary elements?

Using dict comprehension: new_dict = {k: v for k, v in old_dict.items()}

22. How to create new dictionary object using existing dictionary object reference

Using assignment: new_dict = old_dict (both refer to the same object)

23. How to access all keys from a dictionary?

Using keys(): my_dict.keys()

24. How to access all values from a dictionary?

Using values(): my_dict.values()

25. How to access all key-value items from a dictionary?

Using items(): my_dict.items()