

### 1. What is a dictionary in Python?

A dictionary is an unordered collection of key-value pairs. Each key must be unique, and it is used to access its associated value.

### 2. How do you create an empty dictionary in Python?

You can create an empty dictionary using either `my_dict = {}` or `my_dict = dict()`.

### 3. How do you access a value in a dictionary?

You can access a value in a dictionary using its key, like this: `value = my_dict['key']`.

### 4. How do you add a new key-value pair to a dictionary?

You can add a new key-value pair by assigning a value to a new key, like this: `my_dict['new_key'] = 'new_value'`.

### 5. How do you check if a key exists in a dictionary?

You can use the `in` keyword: `if 'key' in my_dict:`.

### 6. How do you iterate over the keys and values in a dictionary?

You can use a for loop with `items()` method: `for key, value in my_dict.items():`.

### 7. How do you remove a key-value pair from a dictionary?

You can use the `pop()` method: `my_dict.pop('key')`.

8. How do you get the list of all keys or values in a dictionary?

You can use the `keys()` method for keys and `values()` method for values: `all_keys = my_dict.keys()` and `all_values = my_dict.values()`.

9. How do you sort a dictionary by keys or values?

You can use the `sorted()` function with `items()` method and a custom key function.

10. What is the difference between `dict.keys()` and `dict.values()`?

`dict.keys()` returns a view of all keys in the dictionary, and `dict.values()` returns a view of all values.

11. Can you have a dictionary with mutable keys?

No, dictionary keys must be immutable (e.g., strings, numbers, or tuples) because they are used for hashing.