1. What does an empty dictionary's code look like?

Ans. a = dict()

2. What is the value of a dictionary value with the key 'foo' and the value 42?

Ans. 42

3. What is the most significant distinction between a dictionary and a list?

A list is an ordered collection of elements, where each element is identified by its position or index in the list. The elements can be of any data type, including numbers, strings, and other lists. You can access the elements of a list using their index, like my\_list[0] to access the first element.

On the other hand, a dictionary is an unordered collection of key-value pairs, where each key is associated with a value. The keys must be unique and can be of any immutable data type, such as strings or numbers, while the values can be of any data type. You can access the values of a dictionary using their keys, like my\_dict['key'] to access the value associated with the key 'key'.

4. What happens if you try to access spam['foo'] if spam is {'bar': 100}?

If we try to access a key that doesn't exist in the dictionary, like spam['foo'] in this case, a KeyError will be raised.

5. If a dictionary is stored in spam, what is the difference between the expressions 'cat' in spam and 'cat' in spam.keys()?

both expressions 'cat' in spam and 'cat' in spam.keys() check whether 'cat' is a key in the dictionary spam. The only difference is that 'cat' in spam.keys() explicitly uses the keys() method to get a view of the keys in the dictionary, while 'cat' in spam checks the keys directly. However, both expressions have the same result.

6. If a dictionary is stored in spam, what is the difference between the expressions 'cat' in spam and 'cat' in spam.values()?

the first expression checks whether 'cat' is a key in the dictionary spam, while the second expression checks whether 'cat' is a value in the dictionary spam.

7. What is a shortcut for the following code?

if 'color' not in spam:

spam['color'] = 'black'

ans. spam.setdefault('color', 'black')

8. How do you "pretty print" dictionary values using which module and function?

To "pretty print" dictionary values in Python, you can use the pprint module and its pprint() function. This function provides a more readable and well-formatted output than the standard print() function, especially when dealing with complex data structures like dictionaries.