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

Ans:

In Python, an empty dictionary is represented by curly braces {}. Here's an example of code that creates an empty dictionary:

my\_dict = {}

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

Ans:

In Python, dictionaries are a data structure that store key-value pairs. To access the value associated with a specific key in a dictionary, you can use square brackets [] with the key inside.

If you have a dictionary where the key 'foo' maps to the value 42, you can retrieve the value using the following syntax:

#Input:

my\_dict = {'foo': 42}

value = my\_dict['foo']

print(value)

#Output:

42

Therefore, the value of the dictionary with the key 'foo' and the value 42 is 42.

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

Ans: Lists are used to store the data, which should be ordered and sequential. On the other hand, dictionary is used to store large amounts of data for easy and quick access. List is ordered and mutable, whereas dictionaries are unordered and mutable.

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

Ans:

If you try to access spam['foo'] when spam is {'bar': 100}, you will encounter a KeyError. The reason is that the key 'foo' does not exist in the spam dictionary.

In Python, when you try to access a dictionary value using a key that doesn't exist in the dictionary, it raises a KeyError exception. In this case, since 'foo' is not a key in the spam dictionary, Python will raise a KeyError with an error message indicating that the key 'foo' was not found.

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

Ans:

'cat' in spam checks if 'cat' is a key in the dictionary spam, while 'cat' in spam.keys() checks if 'cat' is one of the values present in the list of keys of the dictionary spam.

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

Ans:

The expression 'cat' in spam checks whether the key 'cat' exists in the dictionary spam. It returns True if the key is present as a key in the dictionary, and False otherwise. This expression is used to test for the existence of a specific key in the dictionary.

On the other hand, the expression 'cat' in spam.values() checks whether the value 'cat' exists in the dictionary spam as a value. It returns True if any of the values in the dictionary are equal to 'cat', and False otherwise. This expression is used to test for the existence of a specific value in the dictionary.

7. What is a shortcut for the following code?

if 'color' not in spam:

spam['color'] = 'black'

Ans:

A shorter version of the code snippet you provided can be achieved using the dict.setdefault() method. Here's the shortcut:

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

This line of code checks if the key 'color' is already present in the spam dictionary. If it is, the value remains unchanged. If it's not present, the setdefault() method sets the key 'color' with the value 'black'. This approach eliminates the need for an explicit if condition.

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

Ans:

To "pretty print" dictionary values in Python, you can use the pprint module's pprint function. The pprint module provides a way to format and display complex data structures, such as dictionaries, in a more readable and aesthetically pleasing manner.

Here's an example of how to use the pprint module to pretty print dictionary values:

#Input:

import pprint

my\_dict = {

'name': 'John',

'age': 25,

'city': 'New York',

'interests': ['programming', 'reading', 'traveling'],

}

pprint.pprint(my\_dict)

#Output:

arduino

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{'age': 25,

'city': 'New York',

'interests': ['programming', 'reading', 'traveling'],

'name': 'John'}