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

An empty dictionary is represented by {}.

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

The dictionary would look like this:

{'foo': 42}

The value associated with the key 'foo' is 42.

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

The most significant distinction is that dictionaries are unordered collections of key-value pairs, while lists are ordered collections of elements. In dictionaries, elements are accessed via keys, whereas in lists, elements are accessed via indices.

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

get a KeyError because the key 'foo' does not exist in the dictionary spam.

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

There is no difference. Both expressions check if 'cat' is a key in the dictionary spam. The spam.keys() method returns a view of the dictionary's keys, so 'cat' in spam and 'cat' in spam.keys() are functionally equivalent.

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

'cat' in spam checks if 'cat' is a key in the dictionary spam.

'cat' in spam.values() checks if 'cat' is a value in the dictionary spam.

1. **What is a shortcut for the following code?**

**if 'color' not in spam:**

spam['color'] = 'black'

**The shortcut is to use the dict.setdefault() method:**

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

This will set 'color' to 'black' if 'color' is not already a key in spam.

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

use the pprint module and its pprint() function to pretty-print dictionary values:

import pprint

pprint.pprint(spam)

This will print the dictionary in a more readable format, especially for nested dictionaries.